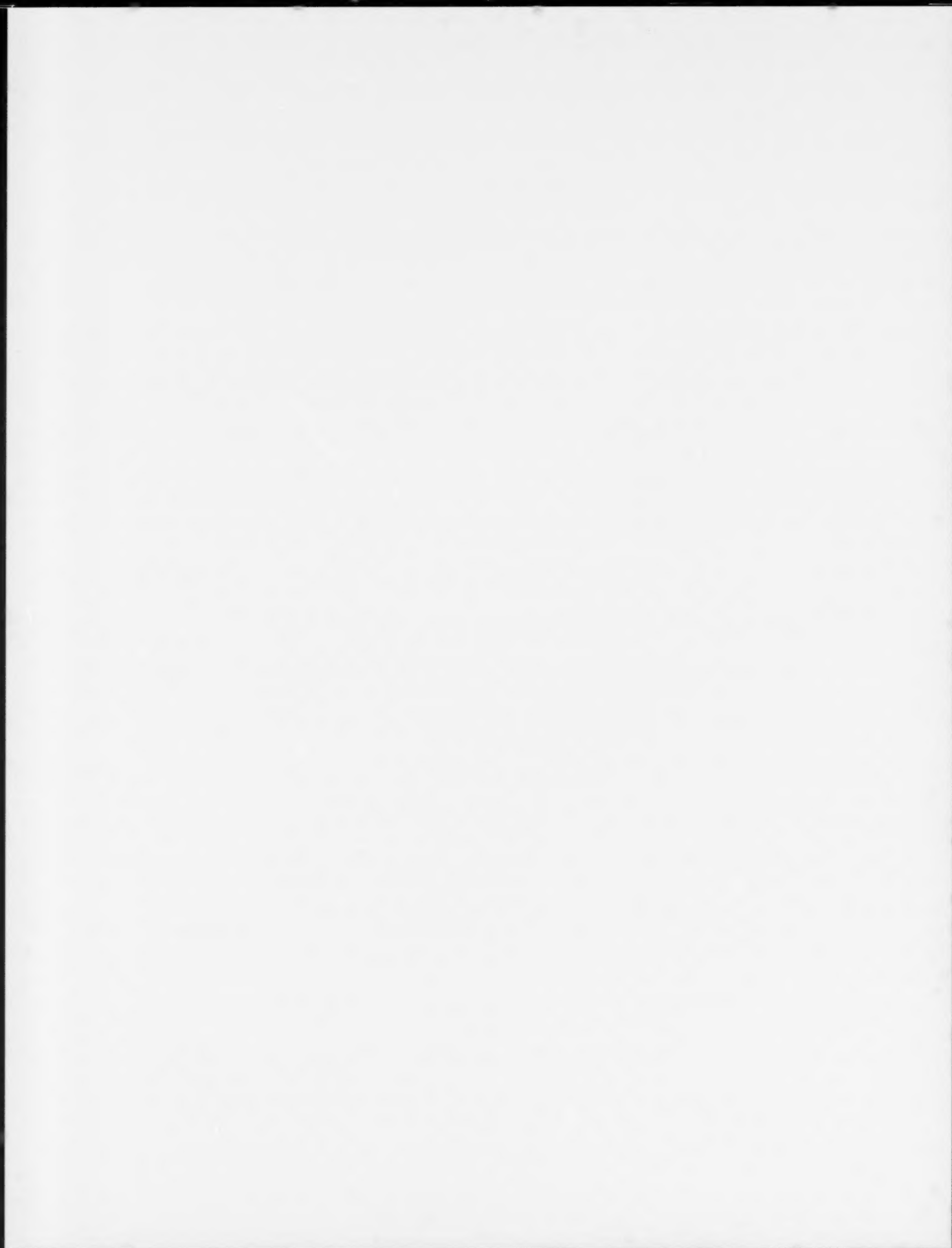




Ontario's Long-Term Report on the Economy



Ministry of Finance





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For general inquiries regarding *Ontario's Long-Term Report on the Economy*, please call:

Toll-free English & French inquiries:	1-800-337-7222
Teletypewriter (TTY):	1-800-263-7776

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Contents

Foreword	xiii
Introduction	1

Chapter 1: Population and Labour Force Trends and Projections

Introduction	7
Demographic Trends and Projections	8
1. Moderate Population Growth	8
2. Population Growth Sustained by Immigration	10
3. Population Aging	11
4. Slower Growth of the Core Working-Age Group	13
5. Declining Overall Labour Force Participation Rate	15
6. Concentration of Population Growth in the Greater Toronto Area	18
Implications of Ontario's Demographic Outlook	20
Future Economic Growth May Be Restrained by	
Slower Labour Force Growth	20
Facilitating Immigrants' Integration into the Labour Market Will	
Support Economic Growth	21
Greater Labour Force Participation of Underrepresented Groups Will	
Need to Be Encouraged	22
A Growing and Aging Population Will Weigh on Government Spending	26
Regional Differences in Population Growth and Age Structure Will	
Require Targeted Government Response	29

Chapter 2: Long-Term Ontario Economic Projection

Introduction	31
1. The Global Economy and the External Environment	33
World Economic Growth	34
United States	35
Europe, Asia and Emerging Markets	37
Energy and Commodity Markets	39
Global Inflation and Interest Rates	41

Canadian Dollar	42
Rest of Canada	43
2. Ontario's Potential Economic Output.....	44
Population and Labour Supply	44
Capital and Investment	45
Productivity	46
3. Details of the Ontario Economic Outlook	49
4. Alternative Growth Scenarios	54
High-Growth Scenario	54
Low-Growth Scenario	55
Impact of Alternative Productivity Growth Assumptions.....	56
5. Risks to the Outlook.....	58
Technological Change	58
Emerging Market Competition	58
Rising Income Inequality	59
Appendix I: Climate Change	60
Appendix II: Ontario's Long-Term Energy Plan	62
Investments to Modernize Ontario's Electricity System	62
Achieving Balance	62

Chapter 3: The Changing Shape of Ontario's Economy

Introduction	69
Global Economic Restructuring: The Future of Manufacturing in Advanced Economies.....	69
Adaptation and Transformation	78
Transition in Business Services and Manufacturing	80
Resource-based Industries	87

Chapter 4: Long-Term Fiscal Prospects

Introduction	89
1. Importance of Fiscal Sustainability	89
2. Demand for Public Services	92
Health Care	93
Education and Training	99
Children's and Social Services	104
Other Government Programs	109
Public Infrastructure	109
3. Federal-Provincial Fiscal Sustainability	111

Chapter 5: Productivity in Ontario: Challenges and Opportunities

Introduction	117
1. Ontario's Historical Productivity Trends	118
2. Ontario's Productivity Growth Compared to Other Jurisdictions	120
3. Potential Causes of Ontario's Lagging Productivity Growth	123
Labour's Role in Productivity Growth	126
Business Investment and Productivity Growth	129
Innovation and Other Factors	132
4. Policies to Improve Productivity	138
Streamlining Regulations	139
Trade Expansion	139
Strengthening Labour Markets	140
Strengthening Innovation	140
Enabling Productive Investment	140
Supporting an Efficient and Stable Financial System	141
Competitive Intensity	141
Investing in Public Infrastructure	142
5. The Role of Business in Improving Productivity	144
Business Underinvestment	144
The Challenge Facing Business	146

Chapter 6: Retirement Income Security

Introduction	147
The Extent of the Retirement Savings Problem	149
Factors that Contribute to the Savings Problem	151
Most People Do Not Have a Workplace Pension	152
Contributions to Voluntary Savings Are Lacking and	
Consistently Healthy Returns Are Hard to Achieve	153
Existing Canada Pension Plan Benefits Are Inadequate	156
People Are Living Longer	159
Who Is Most Likely to Have Inadequate Retirement Savings?	160
Middle-Income Earners	160
Younger Workers	161
Other Risk Groups	162
Inadequate Retirement Savings and the Demographic Shift	163
Future Retirement Incomes and Government Spending	163
Intergenerational Equity	163
Income Inequality	164
Increasing Retirement Savings Would Have Positive Economic Benefits	165
Improving Retirement Preparedness	167
Financial Literacy	167
Transitioning into Retirement	168
Youth Employment	168
Ontario's Approach to Improving Retirement Income Security	169

Tables

Chapter 2: Long-Term Ontario Economic Projection

Table 2.1	Ontario's Long-Term Economic Outlook	32
Table 2.2	Assumptions Overview: Key External Factors	33
Table 2.3	Ontario Key Economic Variables (Base Case).....	64
Table 2.4	Ontario Key Economic Assumptions (Base Case Projections)	65
Table 2.5	Ontario Key Economic Variables (High Productivity)	66
Table 2.6	Ontario Key Economic Variables (Low Productivity)	67

Chapter 3: The Changing Shape of Ontario's Economy

Table 3.1	Nominal GDP Share of Major Ontario Sectors	72
Table 3.2	Employment Share of Major Ontario Sectors	73

Chapter 4: Long-Term Fiscal Prospects

Table 4.1	Per-Capita Provincial Government Health Spending, by Age Group, Ontario, 2011, Current Dollars	94
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Charts

Chapter 1: Population and Labour Force Trends and Projections

Chart 1.1	Growth Rate of Ontario's Population, 1971–2035	8
Chart 1.2	Net Interprovincial Migration to Ontario, 1971–2013	9
Chart 1.3	Contribution of Natural Increase and Net Migration to Ontario's Population Growth, 1971–2035	10
Chart 1.4	Baby Boomers Passing through the Ontario Age Structure, 1965–2035.....	11
Chart 1.5	Age Distribution of Ontario's Population, 1975–2035	12
Chart 1.6	Share of Population Aged 65 and Over, Ontario and Selected Countries, 2012.....	13
Chart 1.7	Growth Rate of the Core Working-Age Population in Ontario, 1971–2035.....	14
Chart 1.8	Labour Force Participation Rates, 25–54 and 55–64 Age Groups, Ontario, 1976–2035.....	15
Chart 1.9	Labour Force Participation Rates of Youth in Ontario, 1976–2035.....	16
Chart 1.10	Labour Force Participation Rates of Seniors in Ontario, 1976–2035.....	17
Chart 1.11	Population of the Greater Toronto Area, 1976–2035	18
Chart 1.12	Labour Force Participation Rates by Age Group, Ontario, 1989 and 2013	23

Chapter 2: Long-Term Ontario Economic Projection

Chart 2.1	Projected Real GDP Growth: 2014 to 2035	34
Chart 2.2	U.S. Real GDP.....	36
Chart 2.3	Proportion of Global GDP	38
Chart 2.4	Bank of Canada Commodity Price Index.....	40
Chart 2.5	Global Central Bank Policy Interest Rates.....	41
Chart 2.6	Canadian Dollar	43

Chart 2.7	Ontario Labour Force Growth	44
Chart 2.8	Public Infrastructure Investment in Ontario — All Contributors.....	47
Chart 2.9	Growth in Ontario Real GDP: Supply Factors	49
Chart 2.10	Ontario's Real GDP Growth	50
Chart 2.11	Ontario Real GDP Per Capita	52
Chart 2.12	Ontario Employment.....	53
Chart 2.13	Impact of High and Low Productivity Growth	57

Chapter 3: The Changing Shape of Ontario's Economy

Chart 3.1	Service Sector's Share of Ontario Employment Increasing	71
Chart 3.2	Service Sector's Share of Ontario GDP Increasing	71
Chart 3.3	Manufacturing Sector's Declining Employment Share in Ontario Is Comparable to U.S. Change.....	74
Chart 3.4	Manufacturing's Share of Total Employment, Selected OECD Countries and Ontario.....	75
Chart 3.5	Ontario's Exporters Losing Market Share in the United States.....	76
Chart 3.6	Ontario Expanding Goods Exports to New Markets	77
Chart 3.7	Ontario's Science and Engineering (S&E) Workforce	79
Chart 3.8	Financial and Business Services: Share of Ontario Employment	81
Chart 3.9	Information and Communications Technology (ICT): Share of Ontario Employment	85
Chart 3.10	Employment Growth in Ontario's Life Sciences Industries	86

Chapter 4: Long-Term Fiscal Prospects

Chart 4.1	Own-Source Revenue to Nominal GDP, 1990-91 to 2034-35	91
Chart 4.2	Ontario Government Program Spending, 2009-10 to 2012-13	92
Chart 4.3	Population Aged 65-74, 75-84 and 85+ in Ontario, 1971-2035.....	95
Chart 4.4	Price Increases in Health Care — Ontario	96
Chart 4.5	Elementary, Secondary and Postsecondary Source Population, 1992 to 2035 — Ontario.....	101
Chart 4.6	Federal and Other Governments' Financial Positions	113
Chart 4.7	Net Contribution to/(Benefit from) Equalization by Province in 2014-15.....	115

Chapter 5: Productivity in Ontario: Challenges and Opportunities

Chart 5.1	Ontario Labour Productivity, Output and Hours Worked.....	119
Chart 5.2	Ontario Labour Productivity Compared with Advanced Economies	120
Chart 5.3	Labour Productivity in Ontario, Canada and the United States	121
Chart 5.4	Labour Productivity Growth in Ontario Sectors	123
Chart 5.5	Labour Productivity Level by Sector in Ontario	124
Chart 5.6	Labour Productivity Level by Manufacturing Sector in Ontario.....	125
Chart 5.7	Ontario Has Highly Educated Workforce Relative to OECD Countries.....	126
Chart 5.8	Unit Labour Costs in Advanced Economies.....	128
Chart 5.9	M&E Investment in Ontario Relative to Canada and the United States	129
Chart 5.10	ICT Investment per Worker in Canada Relative to the United States.....	130
Chart 5.11	ICT Net Capital Stock per Worker in Canada Relative to the United States.....	131

Chart 5.12	Research and Development Spending in Ontario Relative to Canada and the United States	133
Chart 5.13	Ontario's Business-Funded Higher Education R&D Compared to Selected Countries.....	135
Chart 5.14	Exporters Achieve Faster Productivity Growth.....	137
Chapter 6:	Retirement Income Security	
Chart 6.1	Retirement Savings Gap by Study — Selected Results	150
Chart 6.2	Pension Coverage in Ontario, 2012	152
Chart 6.3	Impact of Management Fees on Retirement Savings	154
Chart 6.4	Retirement Income Targets and Potential Gaps	158
Chart 6.5	Life Expectancy at Age 65 by Sex in Ontario	159

Foreword

Ontario's Long-Term Report on the Economy is a long-range assessment of Ontario's economic future. Looking beyond Ontario's current economic and fiscal environment helps the government make sound decisions for the future. It is important to assess the broad trends stemming from today's policy decisions and demographic indicators that will shape Ontario's economic and social environment in the years to come.

The government is committed to being one of the most open and transparent governments in Canada. The *Fiscal Transparency and Accountability Act, 2004*, requires the Province to present this long-range assessment to Ontarians. This is the third long-term outlook and much has changed since the first was released in 2005.

In 2008–09, the global recession affected all major economies around the world. In Ontario, real gross domestic product (GDP) declined by almost five per cent and employment dropped. Ontario's manufacturing sector was particularly hard hit.

However, through the Province's measures to stimulate the economy, Ontario is emerging stronger. Real GDP is almost 10 per cent higher than the recessionary low, and as of the third quarter of 2013, real GDP was 4.5 per cent above its pre-recession peak. Ontario has created almost 450,000 net new jobs since the recessionary low, all full time.

While a recovery is underway, it is not as robust as was earlier expected. Economic growth in many countries around the world continues to be moderate. In that context, this report lays out a number of challenges and opportunities for the future.

- The Ontario population continues to age and the core working-age group (aged 15–64) is growing at a slower pace.
- As the growth of Ontario's labour force slows, stronger productivity gains will be increasingly important to ensure future prosperity.
- The number of Ontario seniors is projected to nearly double to 4.1 million by 2035 and their share of the population will be 23.8 per cent, up from 15.2 per cent in 2013.

- Ontario faces increasing global competition, especially from emerging economies.
- Rapid technological change has the potential to raise productivity and living standards but could also significantly alter the capacities that are needed for employment.
- Expansion of global trade is making goods and services more affordable for consumers.

Other factors this report identifies include resource prices that are likely to rise as the demand from global economic growth outstrips the discovery of new supplies. Interest rates are also expected to rise from historic lows as economic growth improves.

There are serious issues with the retirement income system in Canada. Currently, a significant portion of the population is not saving enough for retirement. It is estimated that more than 35 per cent of households could face a diminished standard of living in retirement, with middle-income earners and younger workers being most at risk.

Adequate personal savings, efficient investments, and better access to pension plans will better enable Ontarians to prepare for when they move from work to retirement. Over the longer term, higher retirement savings would also have a positive impact on the Ontario and national economies, by increasing the national savings rate, thereby contributing to higher investment and stronger economic growth. As a result, the government has announced that it is moving forward with a made-in-Ontario retirement income system to help Ontarians supplement their savings.

Globally, challenges exist, and the government, led by Premier Kathleen Wynne, is confident it can meet and overcome these obstacles. That is why it introduced a bold plan that invests in people, builds modern infrastructure, and supports a dynamic and innovative business climate.

This plan will help the Ontario economy continue to grow, create jobs and help provide the necessary revenues to eliminate the deficit. The government is taking a balanced approach to eliminating the deficit by 2017–18. It will not sacrifice important public services to meet short-term targets. Investments in infrastructure, health and education will help improve economic and productivity growth as companies and workers seize opportunities in the new global economy. Ontario is also continuing to create a strong economic climate based on competitive taxes, an effective regulatory system, a skilled and healthy workforce, and large investments in modern infrastructure.

In a few weeks, I will be tabling my *2014 Ontario Budget*, which will show further resolve to make the investments necessary to build opportunity today and secure a stronger future.

(Originally signed by)

The Honourable Charles Sousa
Minister of Finance

INTRODUCTION

The *Fiscal Transparency and Accountability Act, 2004*, mandates that the government publish a long-term report. The legislation specifies that the report must contain:

- A description of anticipated changes in the economy and in population demographics over the next 20 years;
- A description of the potential impact of these changes on the public sector and on Ontario's fiscal policy during that period; and
- An analysis of key fiscal policy issues that, in the Minister of Finance's opinion, are likely to affect the long-term sustainability of the economy and of the public sector.

Looking beyond Ontario's current economic and fiscal environment allows the government to focus on long-term decision-making. The decisions it will make in the next few years will prepare Ontario to deal with the opportunities and challenges of the coming decades. While the future cannot be known in any detail, it is useful to assess the broad trends that will shape Ontario's economic and social environment. These include:

- An aging and more slowly growing population;
- Intensifying global competition, especially from emerging economies;
- Rapid technological change, with profound but uncertain impacts; and
- Expansion of global trade, bringing cheaper goods and services to consumers.

These tendencies are likely to persist in the coming two decades. Some other factors are less certain. For example, this report anticipates that:

- Resource prices are likely to rise as the demand from global economic growth outstrips the discovery of new supplies and the development of input-saving substitutes;
- In the global competition for talent, Ontario's welcoming, secure communities and attractive quality of life will continue to attract many international immigrants;

- Interest rates will rise from historic lows as economic growth improves; and
- Pressure on the physical environment will remain a concern and a focus of public policy.

Ontario's economy is already transforming in response to these long-term forces. Global competition has led to the restructuring of Ontario's manufacturing industry towards higher value-added, more advanced production. The service sector is also capturing new markets through innovation in product design and customer service. Increasingly, many services are traded internationally. Ontario's future prosperity hinges on more firms, both goods and services producing, continuing to seize opportunities in the global market.

This report considers these and other forces that will affect Ontario between 2014 and 2035, and examines their implications for Ontario's long-term economic and fiscal prospects. The report is divided into six chapters, and includes an overview of Ontario's long-term productivity and retirement income security.

Chapter 1: Population and Labour Force Trends and Projections

Demographic changes have a significant impact on Ontario's long-term economic and fiscal outlook. This chapter presents population and labour force trends unfolding in the province and discusses their potential impacts. Six key trends are identified:

- Population growth will moderate;
- Immigration will sustain population growth;
- Overall population will continue to age;
- Growth in the working-age population will slow;
- The overall labour force participation rate will decline; and
- Population growth will be concentrated in the Greater Toronto Area.

Population aging and slower growth of the working-age group may restrain future economic growth in the absence of significant productivity improvements, and will increase pressure on government spending, particularly on health and infrastructure. As immigration becomes the main source of labour force growth, it will be crucial to help newcomers smoothly integrate into the labour market. Greater labour force participation by older workers, youth and other underrepresented groups will be important to help mitigate slowing growth in the workforce.

Chapter 2: Long-Term Ontario Economic Projection

This chapter provides a projection of Ontario's macroeconomic growth over the 2014 to 2035 period. The chapter discusses:

- Key factors in the global economy that affect Ontario's economic performance, including the performance of the U.S. and global economies, commodity prices, the Canadian dollar exchange rate and interest rates;
- Underlying contributors that determine the Ontario economy's long-term potential to grow, such as labour supply, productivity and the availability of public and private capital;
- Details of the long-term economic outlook for Ontario;
- The impact of different labour productivity assumptions on the long-term outlook; and
- Risks to the economic projection.

The projection shows an economy that will grow somewhat more slowly than in the past, primarily as a result of slower growth in the working-age population. This moderation in the growth of available workers will be a significant challenge, but can be met by enhancing the productive capacity of the labour force through innovation, enhanced management practices, skills training and increases in investment.

Chapter 3: The Changing Shape of Ontario's Economy

This chapter examines the changing structure of Ontario's economy, including:

- Global economic restructuring and the shift from goods-producing industries to advanced manufacturing and services-producing industries;
- Challenges to and opportunities for improving Ontario's manufacturing competitiveness;
- The government's response to these challenges and opportunities — helping create strong economic fundamentals to support growth;
- The economy's ability to adapt to new economic realities and transform for future growth; and
- Detailed industry-specific analyses for major goods- and services-producing sectors.

Ontario's manufacturing sector has significantly restructured in recent years due to a higher Canadian dollar, increased competition from lower-cost jurisdictions, slower U.S. growth, and slower gains in productivity compared to the United States. However, many Ontario manufacturers such as aerospace and food processing firms, as well as many services firms, are successfully capturing new markets by offering innovative new products and services. The government has worked to create a strong business climate built around competitive taxes, an effective regulatory system, a skilled and healthy workforce, and modern infrastructure — which will help firms and workers adapt and seize opportunities in the challenging new global economy.

Chapter 4: Long-Term Fiscal Prospects

This chapter outlines some of the impacts that Ontario's long-term demographic and economic growth outlook could have on future demand for public services. It discusses these impacts from three perspectives:

- The importance of fiscal sustainability for long-term delivery and protection of public services;
- Key drivers of demand for public services: health care, education and training, children's and social services, other government programs, and public infrastructure; and
- The implications of fiscal sustainability from an intergovernmental perspective — in particular, the trend of federal fiscal sustainability being achieved at the expense of provinces and territories.

Ontario's changing demographics, along with external and internal economic challenges, are expected to put pressure on the demand for public services. The government is already taking responsible steps to improve the efficiency and effectiveness of public services to ensure they are on a long-term, sustainable footing. This includes moving forward with recommendations of the Commission on the Reform of Ontario's Public Services, and continuing to advocate for predictable and sustainable support from the federal government.

Chapter 5: Productivity in Ontario: Challenges and Opportunities

Productivity growth is a key driver of an economy's prosperity and living standards. However, Ontario's labour productivity growth has slowed significantly over the past decade, and the gap with the United States has widened. This chapter:

- Reviews Ontario's historical productivity trends;
- Compares Ontario's productivity growth with other jurisdictions;
- Examines potential causes of Ontario's lagging productivity growth;

- Describes current government initiatives and possible future areas of policy focus to improve productivity and competitiveness; and
- Identifies opportunities for the business sector to strengthen productivity over the long term.

As the growth of Ontario's labour force slows, stronger productivity gains will be increasingly important to ensure future prosperity. A key challenge will be shaping government policies to support private-sector opportunities that will raise productivity growth.

Chapter 6: Retirement Income Security

A significant portion of today's workers could experience a decline in living standards in retirement because they are not saving enough. In the absence of change, this problem will likely worsen over time. This chapter:

- Discusses the extent of the retirement savings problem and the factors contributing to it;
- Identifies who is most likely to have inadequate retirement savings; and
- Describes how increasing retirement savings would have positive economic benefits.

Inadequate retirement incomes among future retirees will occur at a time when the population is aging and labour force growth is projected to slow. Taken together, these trends could create more pressure on programs directed at seniors, and an even greater transfer of resources from the younger, working-age population. Adequate personal savings, efficient investments and better access to pension plans would enable Ontarians to be better prepared financially for their retirement future.

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While this paper is a summary of work and analysis on the major issues that face Ontario, it is not a fiscal plan or an economic prediction. It is a guide to what might happen; a considered list of what to pay attention to over the long term.

Ontario is a prosperous province. The future will present both challenges and opportunities. Through hard work, the flexibility to embrace change and adapt, and by investing wisely in people, infrastructure and business climate, this prosperity can be sustained.



# CHAPTER 1: POPULATION AND LABOUR FORCE TRENDS AND PROJECTIONS

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## INTRODUCTION

Ontario's long-term demographic outlook has significant economic and fiscal implications. This chapter presents population and labour force trends unfolding in the province and discusses their potential impacts. There are six key trends:

1. Moderate population growth;
2. Population growth sustained by immigration;
3. Population aging;
4. Slower growth of the core working-age group;
5. Declining overall labour force participation rate; and
6. Concentration of population growth in the Greater Toronto Area.

These demographic trends have far-reaching economic and fiscal implications:

- Population aging and slower growth of the working-age group may restrain future economic growth unless productivity growth accelerates.
- As immigration becomes the main source of labour force growth, it will be crucial to help newcomers smoothly integrate into the labour market. The federal government will need to provide greater support to achieve this goal.
- Increased participation of older workers, youth and other underrepresented groups in the labour force will need to be encouraged to mitigate the impact of baby boomers leaving the workforce.
- Population growth and aging will increase pressure on government spending, notably on health care and infrastructure, as well as on transfer programs and services for seniors.
- Regional differences in population growth and age structure will create challenges for government service delivery and require targeted policy responses.



## Demographic Trends and Projections

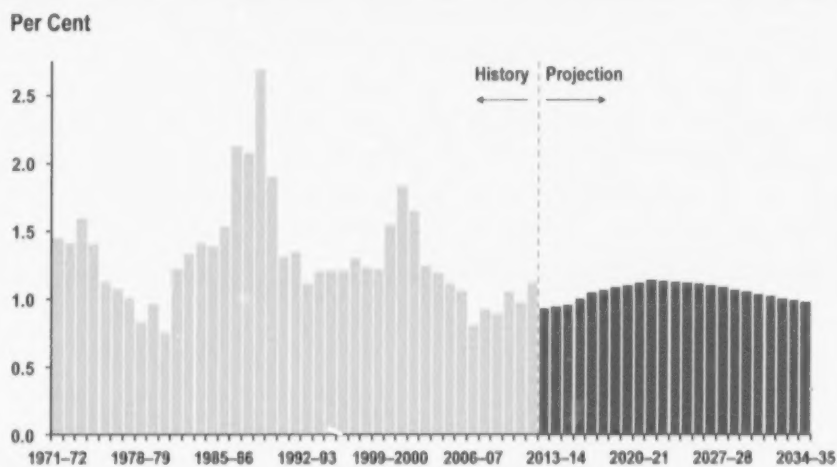
This section discusses six important population and labour force trends unfolding in Ontario. The population projections on which the demographic outlook is based are the latest from the Ontario Ministry of Finance (Spring 2013). The assumptions behind the projections reflect past trends in all streams of migration and the continuing evolution of long-term fertility and mortality patterns. While these assumptions are believed to be reasonable, there is uncertainty in the projections. Although this report presents the medium scenario, low and high scenarios for population projections are also produced to reflect this uncertainty.

### 1. Moderate Population Growth

Since 1971, Ontario population growth has averaged 1.3 per cent annually. The provincial population grew from 7.8 million in 1971 to 13.5 million in 2013, rising on average by over 135,000 per year. Ontario's share of the Canadian population also grew, from 35.7 per cent in 1971 to 38.5 per cent in 2013.

Growth Rate of Ontario's Population,  
1971–2035

CHART 1.1



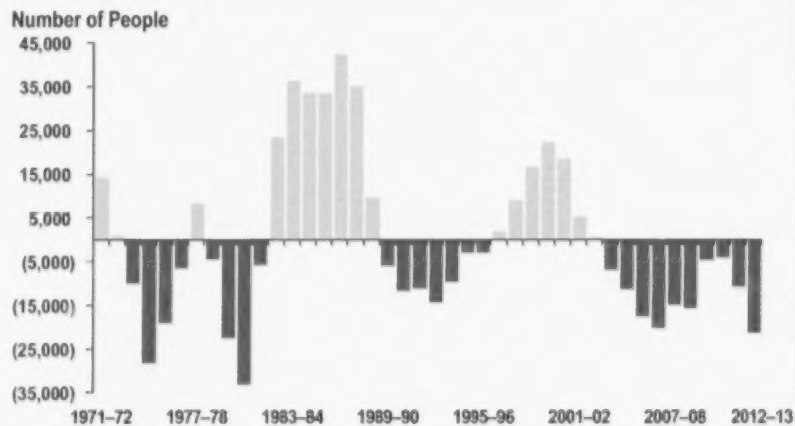
Over the period to 2035, Ontario's population is projected to continue growing moderately, at an average annual rate close to 1.1 per cent. The provincial population is projected to grow from 13.5 million in 2013 to 17.2 million in 2035, adding another 3.7 million people over the period.

### Interprovincial Migration

Historically, the contribution of interprovincial migration to Ontario's population growth has been negligible, with cycles of gains usually followed by periods of losses in a pattern closely tied to economic cycles. However, in any specific year, net gains or losses of people to/from other provinces have had a significant impact on annual population growth rates in the province.

**Net Interprovincial Migration to Ontario,  
1971-2013**

CHART 1.2



Source: Statistics Canada.

## 2. Population Growth Sustained by Immigration

Population growth occurs through natural increase (births minus deaths) and net migration (net international plus net interprovincial migration). Over the past four decades, the share of population growth accounted for by natural increase has declined, due to falling fertility rates and population aging.

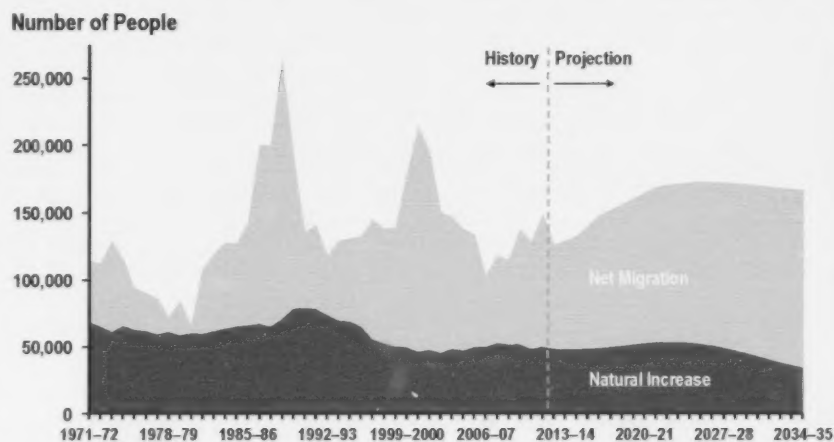
In the 1970s, about two-thirds of population growth came from natural increase. More recently, natural increase accounted for less than 40 per cent of Ontario's population growth.

Over the next two decades, as fertility rates remain relatively low and population aging continues, this downward trend is projected to continue. By 2035, only about one-fifth of population growth is projected to come from natural increase.

As a consequence of this decline in natural increase, net migration is set to become even more important to sustaining population growth in the province.

Contribution of Natural Increase and Net Migration to Ontario's Population Growth, 1971–2035

CHART 1.3



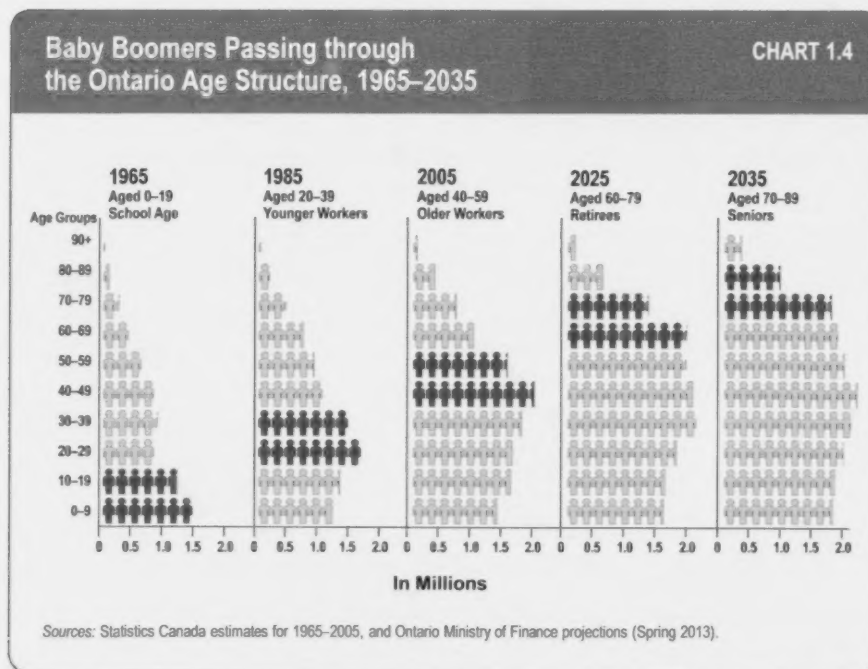
Sources: Statistics Canada estimates for 1971–2013, and Ontario Ministry of Finance projections (Spring 2013).

The largest component of net migration is immigration. Annual immigration as a share of population is projected to rise slightly over the next few years to reach 0.9 per cent of the population by 2020 and continue at this rate until 2035. This compares with Ontario's average annual immigration rate of about one per cent over the last 20 years.

### 3. Population Aging

Low fertility rates and increasing life expectancies have for decades contributed to the aging of population. Life expectancy at birth for men increased from 72.0 years in 1980 to 79.8 years in 2010, and for women from 78.9 years to 83.9 years. By 2035, life expectancy is projected to reach 85.1 years for men and 87.7 years for women.

In the western world, the aging of large cohorts of baby boomers, born from the mid-1940s to the mid-1960s, is compounding the population aging phenomenon.

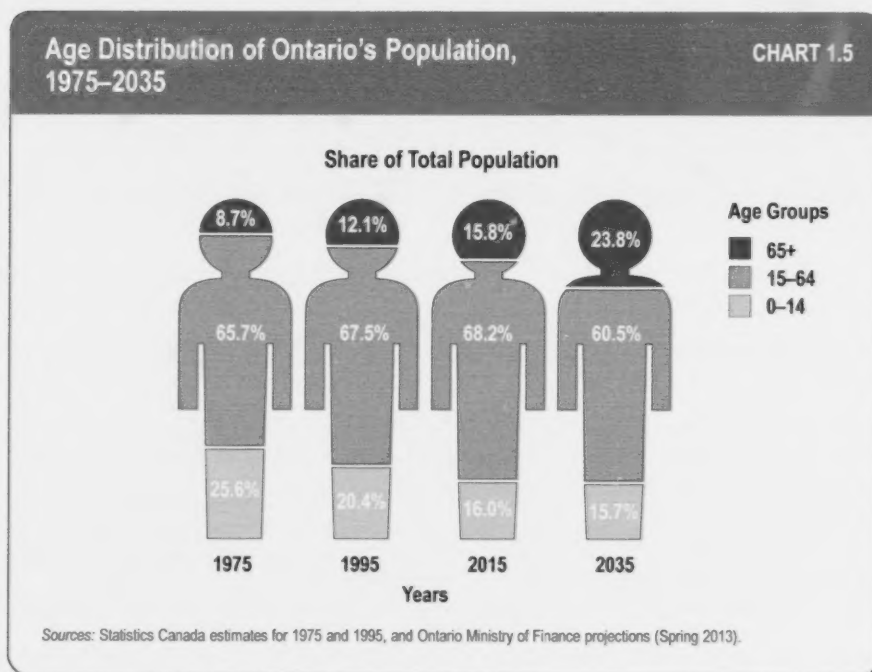


In 1971, almost half of Ontario's population was aged 25 and under, and seniors accounted for only eight per cent of the population. Today, less than a third of the population is aged 0–25 and seniors account for 15 per cent of the total.

The arrival of baby boomers into the 65 and over age group began in 2011. The number of seniors is projected to almost double to 4.1 million by 2035, from 2.1 million in 2013. Even faster growth is projected for the oldest age group during this period, with the population aged 90 and over almost tripling (+189 per cent). By 2035, seniors will account for 23.8 per cent of Ontario's population.

**Age Distribution of Ontario's Population,  
1975–2035**

**CHART 1.5**

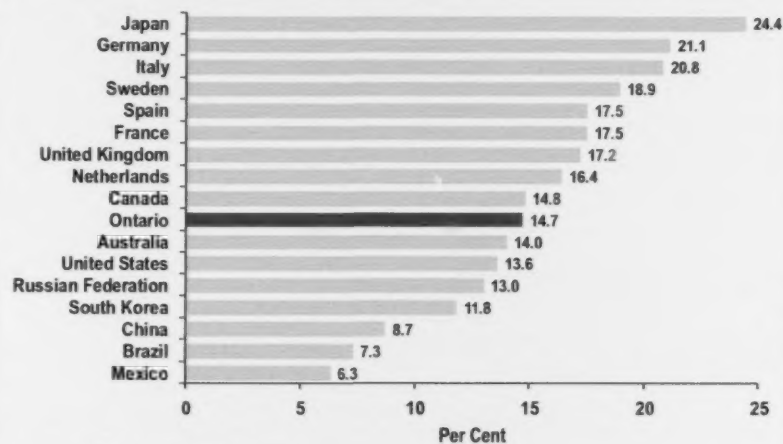


### Population Aging in Perspective

The pace of population aging varies around the world. In 2012, Ontario and Canada had shares of seniors slightly below the Organisation for Economic Co-operation and Development (OECD) average of 15.3 per cent, but significantly lower than the Eurozone's 18.9 per cent. In Italy and Germany, one in five residents is already aged 65 and over. At 24.4 per cent in 2012, Japan's share of seniors was already higher than what is projected for Ontario in 2035 (23.8 per cent).

Share of Population Aged 65 and Over,  
Ontario and Selected Countries, 2012

CHART 1.6



Sources: The World Bank and Statistics Canada.

### 4. Slower Growth of the Core Working-Age Group

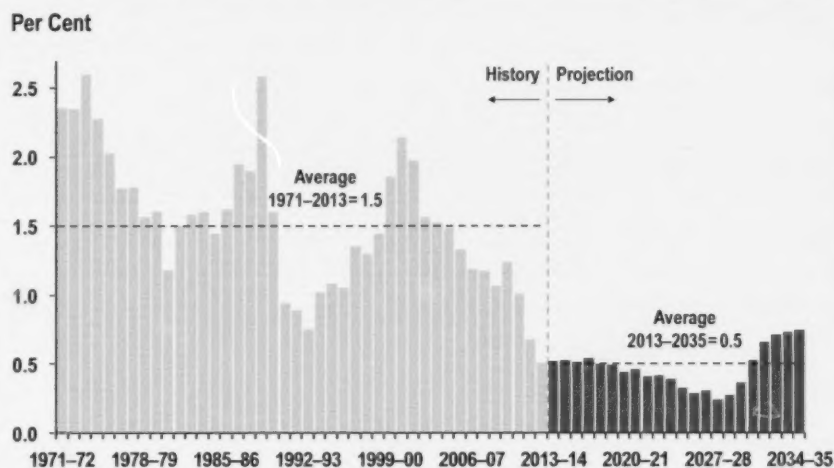
As with many Western nations, growth in the core working-age population (ages 15–64) was mainly driven by young people turning 15 and immigration. In the 1960s and 1970s, baby boomers joined the 15–64 age group, swelling its ranks. In the 2000s, their children, the echo generation, became of working age. Over the past 40 years, Ontario's core working-age population almost doubled, growing at an average annual rate of 1.5 per cent.

From now until the late 2020s, the passage of large cohorts of baby boomers into retirement age will be the main factor influencing the moderation of growth in the core working-age group. By 2031, once all baby boomers have exited the core working-age group, the pace of growth will increase but be lower than historical standards.

Over the period to 2035, the core working-age population (aged 15 to 64) is projected to increase by 12 per cent — an average annual increase of 0.5 per cent. By 2035, Ontario's core working-age population is projected to number 10.4 million and to account for 60.5 per cent of the population, down from 68.6 per cent in 2013.

**Growth Rate of the Core Working-Age Population in Ontario, 1971–2035**

CHART 1.7



Sources: Statistics Canada estimates for 1971–2013, and Ontario Ministry of Finance projections (Spring 2013).

Starting in 2015, more people will turn 65 than young people turn 15, meaning that growth of the core working-age group will come exclusively from net migration.



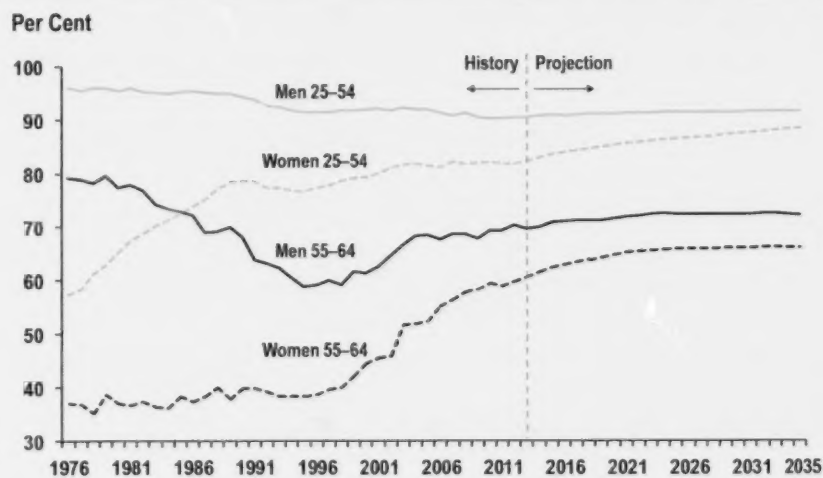
## 5. Declining Overall Labour Force Participation Rate

As growth in the core working-age population slows, Ontario's labour force will also grow at a slower pace. Population aging is expected to result in a declining rate of overall labour force participation in Ontario.

The most significant trend driving the aggregate labour force participation rate since the 1970s has been the increase in the number of women in the workforce. Labour force participation rates for adult women have risen dramatically, from 57 per cent in 1976 to 82 per cent in 2013. This trend, however, is moderating as core working-age female labour force participation rates approach those of similarly aged males. It is projected that 25- to 54-year-old female labour force participation rates will climb to 89 per cent by 2035, just below those of males of the same age.

Labour Force Participation Rates,  
25–54 and 55–64 Age Groups, Ontario, 1976–2035

CHART 1.8



Sources: Statistics Canada and Ontario Ministry of Finance.

Despite continued gains in labour force participation, women are still underrepresented in leadership positions such as on boards of directors and in executive positions. This is one of the reasons the Ontario Securities Commission has published rule amendments for comment that would include a requirement for certain public companies to annually disclose their policies regarding the representation of women on their boards and, if no policy is in effect, companies would be required to explain the absence of such policies. As well, companies would be required to disclose the consideration given to the representation of women in executive positions when making executive officer appointments or an explanation for the absence of such consideration.

The labour force participation rate of Ontario's youth aged 15 to 24 has been on a declining trend since the late 1980s. After reaching a peak of 74.6 per cent in 1989, the labour force participation rate of youth in Ontario fell to a low of 60.1 per cent in 2012, before edging up modestly in 2013.

This decline reflects a variety of factors, including rising enrolment rates in postsecondary education institutions, which provide youth with valuable skills that increase future employment and earning prospects.

**Labour Force Participation Rates of Youth in Ontario, 1976–2035**

**CHART 1.9**

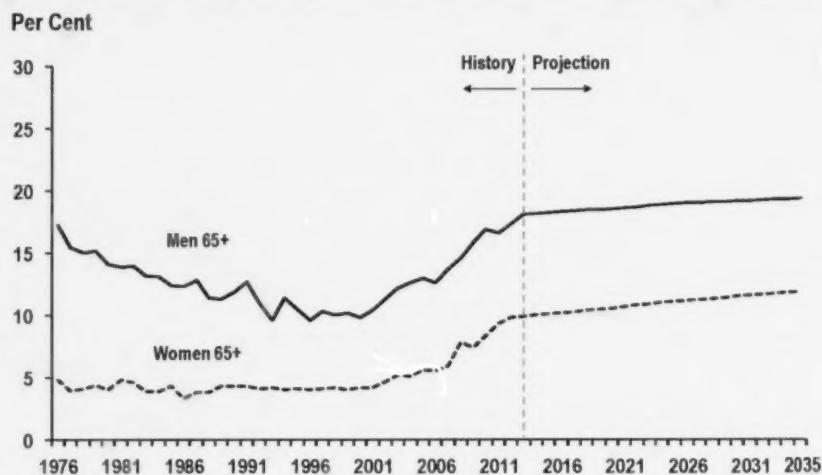


Government investment in youth employment, such as the Ontario Youth Jobs Strategy, combined with ongoing improvements in the labour market is expected to contribute to a modest rise in youth labour force participation in coming years.

At the other end of the age spectrum, the average age of retirement increased from 61 years in 2002 to 64 years in 2013, which should support a rise in the 65+ participation rates. Labour force participation of workers aged 60–64 rose from a low of 35.4 per cent in 1998 to 54.9 per cent recently. Over the same period, the participation rate of those aged 65–69 increased from 12.5 to 27.4 per cent. As well, some older workers who have retired chose to maintain attachment to the labour market in some form, including by taking part-time positions. However, while this group is growing, it is expected to have a fairly modest impact on the overall labour force.

**Labour Force Participation Rates of Seniors  
in Ontario, 1976–2035**

CHART 1.10

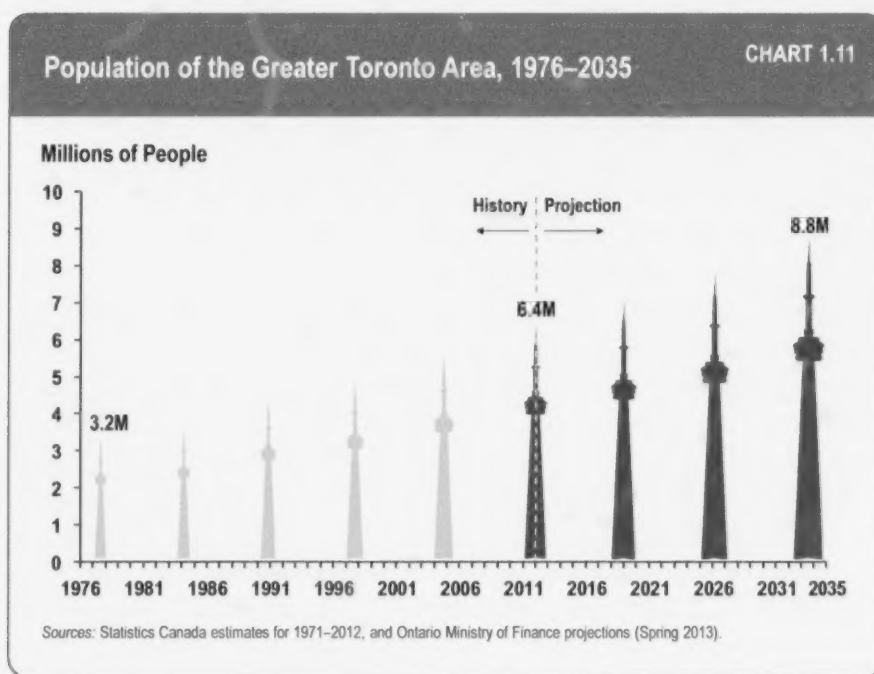


Sources: Statistics Canada and Ontario Ministry of Finance.

On balance, even with labour force participation rates rising for many segments of the workforce, the impact of population aging means that the overall labour force participation rate is expected to decline, from 66.4 per cent in 2013 to 63.3 per cent by 2035.

## 6. Concentration of Population Growth in the Greater Toronto Area

The Greater Toronto Area (GTA) is one of the fastest growing metropolitan areas in North America. The population of the GTA has doubled since the mid-1970s, rising from 3.2 million in 1976 to over 6.4 million in 2013. The region has seen significantly faster growth than the rest of the province over this period, such that today 48 per cent of Ontarians live in the GTA, up from 38 per cent in 1976. The main driver of regional growth is immigration.



The GTA remains attractive for immigrants, with more than 80,000 people immigrating to the region every year. This is projected to continue in the future. The GTA's total population is expected to grow by another 2.5 million people by 2035 to reach 8.8 million. The region will account for more than two-thirds of provincial population growth over the period. It is projected that, by 2035, 51.4 per cent of Ontarians will live in the GTA.

In the rest of the province, the population will keep growing, but at a slower pace. Central and Eastern Ontario are projected to see population growth of over 20 per cent to 2035. The population of Southwestern Ontario will grow by about 10 per cent, while the North as a whole is projected to maintain a fairly stable population. Throughout the province, large urban areas are projected to grow faster in general, while some remote and rural areas are projected to continue experiencing long-term population decline.

## **Implications of Ontario's Demographic Outlook**

This section discusses far-reaching economic and fiscal implications stemming from Ontario's demographic outlook to 2035.

### **Future Economic Growth May Be Restrained by Slower Labour Force Growth**

As the population ages and the pace of growth in the core working-age group slows, Ontario's labour force will not increase as rapidly as it has in the past. This could contribute to a slower rate of future real gross domestic product (GDP) growth in the province.

The first baby boomers have reached retirement age, and more will turn 65 each year, surpassing the number of young people entering the working-age group. Since participation in the job market is significantly lower for older age groups, population aging will be a factor in slower labour force growth to 2035. Policies to encourage higher labour force participation, including flexible retirement policies, would partially offset the effects of aging on the aggregate participation rate. This could also mitigate the cost to government of population aging.

Encouraging faster productivity growth can help minimize the impact of slower labour force growth. Business investment is one of the primary levers of labour productivity growth. New technology, plants and equipment can enable businesses and workers to produce more and better products.

Public investment in infrastructure can also enhance long-term productivity. For example, transportation infrastructure reduces costs for businesses trying to access current and emerging markets, while public transit helps connect workers to more jobs and opportunities.

To ensure Ontario's future economic prosperity, it is critical that governments, employers and workers continue to work together to promote ongoing improvements in productivity.

## **Facilitating Immigrants' Integration into the Labour Market Will Support Economic Growth**

Immigration has always contributed significantly to Ontario's economic and social prospects. Highly skilled immigrants are essential to support the development of a knowledge-based economy. Immigration also helps foster Ontario's international trade through commercial and cultural ties with countries of origin.

To remain competitive and promote economic development, Ontario must continue to attract and retain global talent. A greater provincial role in selecting the level and mix of immigrants coming to Ontario is necessary to ensure newcomers better support economic prosperity in the province.

Ontario is taking steps to help skilled immigrants come to the province and successfully integrate into the labour market. On November 5, 2012, Ontario released its first immigration strategy, *A New Direction: Ontario's Immigration Strategy*, which has three objectives:

1. Attract a skilled workforce and build a stronger economy;
2. Help newcomers and their families achieve success; and
3. Leverage the global connection of our diverse communities.

Ontario's Immigration Strategy calls on the federal government to increase its Provincial Nominee Program allocation to 5,000 in 2014. This would help reverse the trend of a declining share of economic-class immigrants to Canada settling in Ontario. This share fell from 61.1 per cent in 2001 to 30.5 per cent in 2012. Ontario should have the same flexibility and capacity as other provinces to meet changing labour market needs and help the economy grow.

Achieving the full benefits of immigrants' participation in the labour market requires that the provincial and federal governments work together to better facilitate the economic integration of newcomers. Providing the necessary training and supports will help immigrants prepare to enter the labour market and contribute to Ontario's future prosperity sooner. Therefore, the Province calls on the federal government to provide sufficient financial support to help with the settlement and integration of new Canadians.



Another key to Ontario leveraging the global value of immigration is to help internationally trained individuals obtain employment in their fields. The Province offers a variety of programs, including bridge training, which help immigrants settle and prepare to enter the labour market. These individuals still face a number of challenges in having their credentials and experience recognized. The government is working with regulators and Ontario's Fairness Commissioner to continue improving recognition of internationally trained professionals' foreign qualifications.

### **Greater Labour Force Participation of Underrepresented Groups Will Need to Be Encouraged**

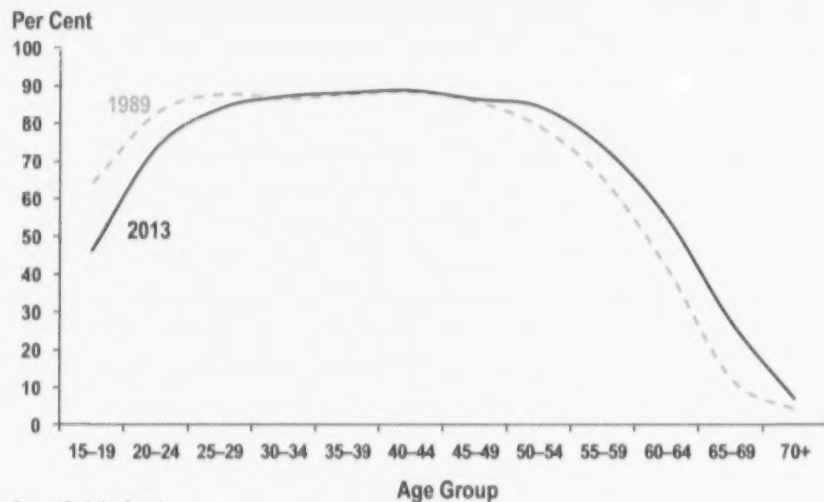
The impact of baby boomers retiring and the loss of their workplace experience can be partially mitigated by encouraging increased labour force participation of all segments of the Ontario workforce.

As described earlier, while the labour force participation of youth has declined over time, older workers have been increasing their participation in the labour market. This trend was particularly strong for those aged 65 to 69, whose participation rates more than doubled from 12.4 per cent in 1989 to 27.4 per cent in 2013.



Labour Force Participation Rates by Age Group,  
Ontario, 1989 and 2013

CHART 1.12



Promoting policies and workplace initiatives that encourage more flexible work arrangements can help increase labour force participation of all workforce groups.

The employment and training needs of those with a weak attachment to the labour market will also have to be met to increase labour force participation. Providing services and supports that are best suited to the needs of individuals can more effectively address barriers to employment and lead to better outcomes.

### **Older Workers**

There is still a strong case for policies to further reduce barriers that older workers face in the labour market. These include facilitating flexible retirement plans such as gradual reduction of working hours while contributing to pension plans; flexible work schedules; opportunities for older workers to upgrade skills; supporting work/life balance; and promoting the health and well-being of workers in the workplace.

Encouraging skilled workers to remain in the workforce longer, either full time or part time, will be particularly important in occupations where the average age of workers is higher or where recruitment challenges exist, such as in certain skilled trades and health professions. For example, to mitigate the trend of early retirement among nurses, the Nursing Strategy will support late-career nurses who work in hospitals and long-term care homes remaining in the workforce by providing less physically demanding, alternate roles for a portion of their work time.

### **Youth**

The labour force participation of youth is particularly sensitive to the state of the economy. During periods of recession and in their aftermath, youth, in particular those aged 15 to 19, experience a much greater decline in labour force participation compared to other age groups.

Ontario's youth fared much better than their counterparts in most Organisation for Economic Co-operation and Development (OECD) countries following the recent recession but they still face high unemployment. In 2013, the youth unemployment rate stood at 16.1 per cent, compared to 13.0 per cent in 2007. This is of concern as studies show that periods of youth unemployment can have long-term social and economic consequences. These experiences can lead youth to face persistently lower wages and a higher likelihood of becoming unemployed later in life.

Initiatives geared towards increasing youth employment and incentives for earlier entry into the labour market can help boost Ontario's workforce.

As more jobs are expected to require postsecondary education going forward, it is important that Ontario continue to provide support to boost higher education. Ontario has implemented measures to expand access to postsecondary education and promote higher rates of completion at colleges and universities. As a result, the percentage of students graduating from college has increased from 57 per cent in 2002–03 to 65 per cent in 2011–12. Moreover, 77 per cent of undergraduate students are completing university, up from 74 per cent in 2002–03.

Policies and programs aimed at improving school-to-work transition can contribute to better employment outcomes for youth. These include partnerships among educational institutions, employers and government; the integration of career development in high school; and the expansion of experiential learning opportunities in colleges and universities.

In recognition of Ontario's youth employment challenges, the *2013 Budget* announced \$295 million over two years in a comprehensive Youth Jobs Strategy. The Strategy includes a Youth Employment Fund established to create 25,000 job opportunities over two years. The Fund has already helped employers offer over 9,000 job and training placements to young people across Ontario. Existing employment and training programs also support Ontario youth. About 35 per cent of Employment Ontario's clients were aged 29 or under in 2012–13.

### ***Investments in Education and Skills Training***

Investments in education and skills training play a critical role in preparing people for available jobs and ensuring future prosperity in a knowledge-based economy.

Through Employment Ontario, the Province's network of employment and skills training programs, the Province invests more than \$1 billion annually in workers' skills and training, serving about one million Ontarians each year.

The Ontario government has been committed to improving its employment and training programs to promote labour market outcomes among people who are underrepresented in the labour market by:

- Introducing a comprehensive Youth Jobs Strategy;
- Integrating employment and training services across the government with Employment Ontario to improve services for clients;
- Removing barriers for people with disabilities;
- Promoting apprenticeship enrolment and completion to increase the supply of skilled workers; and
- Ensuring affordable postsecondary education, including the introduction of the 30% Off Ontario Tuition grant in 2011–12, which improved access for low- and middle-income families.

The government also remains committed to preparing the youngest students for a productive future. Ontario's investments in full-day kindergarten give children a better start in school and prepare them for success.

### ***Workplace Training and Lifelong Learning***

Governments, employers, labour, and education and training institutions need to work together to explore incentives and measures that would increase workplace training opportunities. Studies show that employers in Canada invest less per capita in workplace training than international competitors such as the United States.<sup>1</sup>

In today's knowledge-based economy, workplace training and lifelong learning are increasingly important to keep pace with technological change and constantly changing skills requirements. With Ontario's aging population and slower labour force growth, workplace training and lifelong learning are even more important for Ontario's productivity, competitiveness and growth. Ensuring the availability of skills that meets the needs of growing or emerging industries will also remain crucial.

### **A Growing and Aging Population Will Weigh on Government Spending**

With the number of seniors in the province almost doubling by 2035, government spending, particularly on health care, will come under increased pressure.

#### ***Health Care***

Ontario's health care system must prepare for the demographic shift that will nearly double the number of seniors living in the province by 2035. The provincial government spends on average three times more per capita on health care for seniors than for the overall population.

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<sup>1</sup> C. Lavis, "Learning and Development Outlook 2011 — Are Organizations Ready for Learning 2.0?" Conference Board of Canada, (2011); P.D. Hughes and A. Campbell, "Learning and Development Outlook 2009: Learning in Tough Times," Conference Board of Canada, (2009).

Population aging has put pressure on the demand for health services and contributed from one-half to one percentage point to the underlying cost drivers of health spending by the provincial government over the past three decades. It is projected that, as population aging accelerates, the impact of this demographic factor would, other things being equal, increase the cost pressures on public health spending by slightly more than one per cent annually.

These demographic changes are happening concurrently with the government's plan to manage the rate of growth in health spending. See Chapter 4: *Long-Term Fiscal Prospects* for more information on cost drivers and mitigation strategies in the health care sector.

### **Government Transfer Programs and Services for Seniors**

Population aging will also put increasing pressure on other programs that benefit seniors, including transfers, community and social services, and long-term care. These costs will likely accelerate in the 2020s as the baby boom cohorts begin to enter their seventies in large numbers. As well, retirement saving by today's workers, including baby boomers who are currently in what were typically high-saving years, is inadequate. Studies have consistently shown that many of today's workers are not saving enough to maintain comparable living standards in retirement, and that this problem is likely to worsen with each subsequent cohort.

The intersection of population aging and slower labour force growth with inadequate retiree income would cause a negative impact on future program spending and economic growth. A large senior population with inadequate income will rely to a greater degree on government transfer programs and services, exacerbating the pressures expected to arise from population aging alone.

These additional costs would be a burden that future workers will have to bear, either directly through greater support to older family members or indirectly through higher taxes. To mitigate these risks, the government is committed to enhancing and improving retirement income security so that workers are better prepared for the retirement phase of their lives.

### **Infrastructure**

Ontario's projected population growth of 3.7 million by 2035 will result in significant demand for all types of infrastructure, from transportation, health care and education, to the electricity system and water management. For instance, an aging population and a growing number of seniors living on their own will likely have implications for housing needs, public transit and the delivery of community services. See Chapter 4: *Long-Term Fiscal Prospects* for more information on public infrastructure.



## **Regional Differences in Population Growth and Age Structure Will Require Targeted Government Response**

Regional differences in the pace of population growth and aging will create challenges for government service delivery.

As the population of the Greater Toronto and Hamilton Area (GTHA) keeps growing at a rapid pace, the demand for urban infrastructure, especially transit, will remain high. Investments in public transit support economic growth and help improve the quality of life of Ontarians by enhancing the connectivity of neighbourhoods and business districts and by addressing congestion. The *Places to Grow Act, 2005*, enables the government to create provincial growth plans that provide a framework for implementing the government's vision for stronger, prosperous communities. The Growth Plan for the Greater Golden Horseshoe, which includes the GTHA, will continue to guide decisions on a broad range of issues, including transportation, infrastructure planning, land use planning, urban form, housing, natural heritage and resource protection.

While large urban areas will continue to experience population growth, some small, remote and rural communities of the province are currently experiencing long-term population decline. Maintaining a balanced level of government services in such communities will grow in importance as a key policy priority.

Different regions of the province will experience varying growth of specific age groups, which will require different government responses. While the number of children in Ontario is projected to grow overall through to 2035, many regions are expected to see declines. This means that school enrolment will rise in some regions and fall in others. Investment in future elementary and secondary education infrastructure should be informed by this changing geographic distribution that will influence new school expansion in underserved areas and the consolidation of underutilized school sites.

As well, population aging will not occur at the same pace in all regions. Rural and remote regions such as Northeastern Ontario, where proportions of seniors are already higher than average, will see the slowest increase in numbers of seniors. The greatest pressures on health care spending will likely be in suburban municipalities, particularly in the GTHA, where the number of seniors is projected to more than double by 2035.





## CHAPTER 2: LONG-TERM ONTARIO ECONOMIC PROJECTION

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### INTRODUCTION

This chapter provides a projection of Ontario's long-term macroeconomic outlook to 2035. The projection is based on a set of reasonable assumptions that together determine the path of the Ontario economy's *potential output* — the highest level of production that can be sustained without creating inflationary pressures. This long-term projection does not attempt to predict the recurring cycles of strong or weak economic growth that will likely occur over the next 20 years. Rather, it shows the average or expected trends for the economy over the next two decades.

The projection shows an economy that will grow somewhat more slowly than in the past, primarily as a result of slower growth in the working-age population. This moderation in the growth of available workers will be a significant challenge, but can be met by enhancing the productive capacity of the labour force through innovation, enhanced management practices, skills training and increases in investment.

The Ontario government has created a plan to spur economic growth, create jobs and strengthen services that help families. That plan is based on three core priorities:

- Investing in people;
- Investing in modern infrastructure; and
- Creating a dynamic and innovative business climate.

**Table 2.1 Ontario's Long-Term Economic Outlook**

| Average Growth<br>(Per Cent) | Actual<br>(Average) | Projection (Average) |         |         |         |         |         |
|------------------------------|---------------------|----------------------|---------|---------|---------|---------|---------|
|                              | 1982-2013           | 2014-17              | 2018-22 | 2023-27 | 2028-32 | 2033-35 | 2014-35 |
| Real GDP                     | 2.6                 | 2.5                  | 2.1     | 1.9     | 2.1     | 2.1     | 2.1     |
| Nominal GDP                  | 5.3                 | 4.2                  | 4.1     | 3.8     | 4.0     | 4.1     | 4.0     |
| Labour Force                 | 1.5                 | 1.0                  | 0.9     | 0.7     | 0.8     | 1.0     | 0.9     |
| Labour Productivity          | 1.2                 | 1.0                  | 1.1     | 1.1     | 1.2     | 1.1     | 1.1     |
| Employment                   | 1.5                 | 1.4                  | 1.0     | 0.8     | 0.8     | 1.0     | 1.0     |
| Unemployment<br>Rate         | 7.7                 | 6.7                  | 5.7     | 5.3     | 5.1     | 5.1     | 5.6     |
| Consumer Price<br>Inflation  | 3.0                 | 1.9                  | 2.0     | 2.0     | 2.0     | 2.0     | 2.0     |

*Note:* Projections for the 2014-17 period are the government's current planning assumptions.

*Sources:* Statistics Canada and Ontario Ministry of Finance.

This chapter begins by discussing the global economy and the external environment (e.g., commodity prices, the exchange rate and interest rates) that shape the backdrop of the long-term economic projection. Section 2 reviews the components of Ontario's potential economic output: labour supply, productivity and availability of capital, both public and private. Section 3 provides details of the Ontario economic outlook. As future growth in productivity is so critical to the long-term prosperity of the province, Section 4 explores the impact of different labour productivity assumptions on the long-term economic outlook. The final section reviews some of the long-term risks to the economic projection.

## 1. The Global Economy and the External Environment

Ontario is part of an integrated global economy. Strong trade and financial market links to the rest of Canada, the United States and the global economy provide access to low-cost capital, large export markets for Ontario products, and a range of imports and investment opportunities. These linkages can also lead to both positive and negative effects (e.g., the 2008–09 global financial crisis). This section reviews some of the key external assumptions that underlie this long-term economic projection.

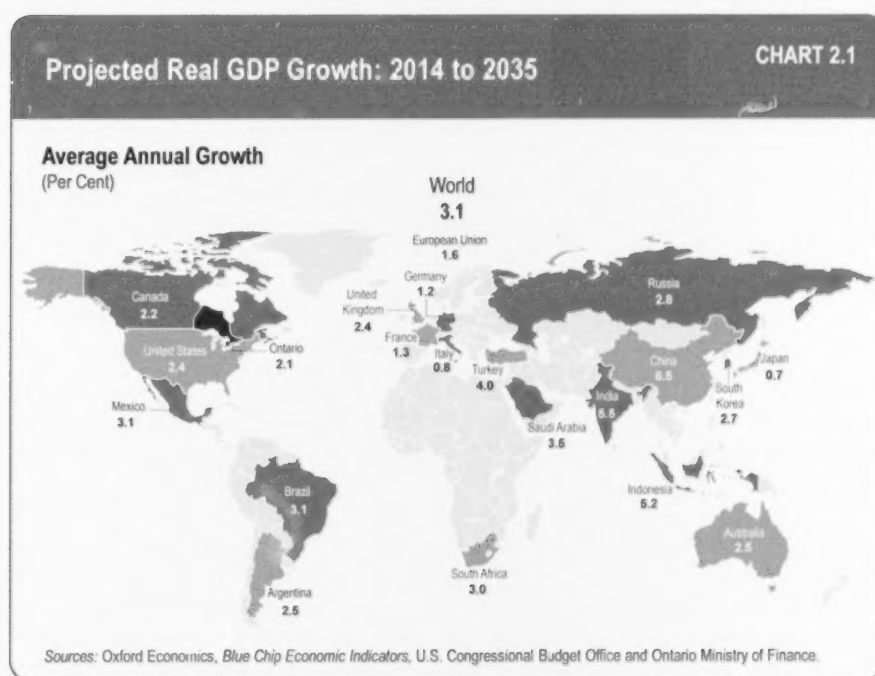
**Table 2.2** Assumptions Overview: Key External Factors

| Components      | Assumptions                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Global Economy  | Global real GDP growth to average 3.1 per cent annually over the 2014–35 period. Growth in China is expected to slow from about 10 per cent a year historically to 6.5 per cent annually over the 2014–35 period. |
| U.S. Economy    | Real GDP growth to average 2.4 per cent annually during the 2014–35 period, compared to 2.8 per cent historically.                                                                                                |
| Oil Prices      | Oil prices to approach \$175 per barrel (nominal U.S. dollars) by 2035. Projection assumes increasing long-term real prices.                                                                                      |
| Canadian Dollar | Canadian dollar to remain in the 90 to 100 cents US range through 2035.                                                                                                                                           |
| Rest of Canada  | Real GDP growth to average 2.2 per cent annually during the 2014–35 period.                                                                                                                                       |
| Interest Rates  | Interest rates to rise from recent historical lows as inflation returns to about two per cent on average.                                                                                                         |

It is beyond the scope of projections of this nature to quantify the risks of global political disruptions, extreme weather due to climate change, major health emergencies such as pandemics, disruptive technologies or an increase in international conflicts. Any of these factors, in addition to other unforeseen risks, could significantly impact the long-term outlook for the Ontario economy.

## World Economic Growth

This projection assumes that long-term global real growth will average 3.1 per cent annually. Among the major advanced economies there is a contrast between some regions, including most importantly the United States, which are expected to grow fairly robustly, especially in the near term, and others, most notably Europe and Japan, which are expected to post only modest growth in the long term. Emerging markets are generally expected to continue their strong rates of economic growth, albeit at a more moderate pace than over the last decade.<sup>1</sup>



<sup>1</sup> Assumptions for the world economy and regions are from Oxford Economics. U.S. assumptions are from *Blue Chip Economic Indicators* and the U.S. Congressional Budget Office. Canadian assumptions are from the Ontario Ministry of Finance.

Over the medium term, emerging market economies are expected to reduce their reliance on investment- and export-led growth, shifting more to domestic consumption as the wealth of their population increases. On the other hand, advanced economies are expected to continue to consolidate government spending and limit domestic consumption, relying more on exports to drive their growth. The uncertain pace of this global rebalancing is a significant risk to the world economic outlook.

## United States

The United States is expected to remain Ontario's largest trading partner, even as Ontario continues to diversify its trade towards the relatively fast-growing emerging market economies.

The U.S. economy is expected to grow relatively robustly in the medium term before trending lower to its long-term potential. Over the 2014 to 2035 period, the U.S. economy is expected to grow 2.4 per cent per year on average. As Ontario's major export market, this will help support the province's long-term economic growth.

The United States is well positioned for long-term growth, mostly as a result of strong productivity growth. According to the U.S. Congressional Budget Office (CBO), long-term U.S. potential economic growth is expected to average about 2.2 per cent per year, supported by solid labour productivity growth of 1.7 per cent per year on average.<sup>2</sup> The U.S. labour force is expected to grow at a 0.5 per cent average annual pace during this period, lower than the average 0.8 per cent pace recorded between 2002 and 2013. This slower pace of labour force growth is mainly due to the retirement of baby boomers lowering the aggregate participation rate and a plateauing in the participation rate of women.

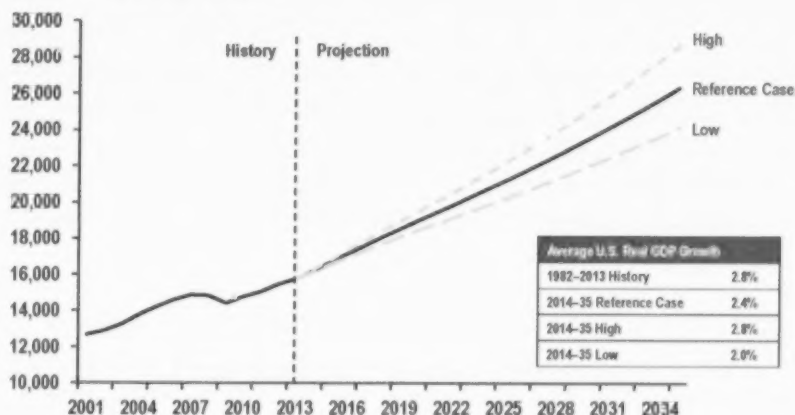
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<sup>2</sup> For a discussion of why Ontario and Canadian productivity have lagged U.S. productivity historically, see Chapter 5: *Productivity in Ontario: Challenges and Opportunities*.

## U.S. Real GDP

CHART 2.2

\$ Billions, 2009 U.S. Dollars



Note: Scenarios based on an average of *Blue Chip Economic Indicators*' bottom and top 10% long-term forecasters.  
Sources: *Blue Chip Economic Indicators*, U.S. Congressional Budget Office and Ontario Ministry of Finance.



## Europe, Asia and Emerging Markets

Europe is emerging from the recent recession but continues to face long-term challenges including high unemployment and fiscal imbalances. In addition, the Eurozone financial system remains fragile and vulnerable to future disruptions. This projection assumes that real growth in the European Union will average 1.6 per cent annually between 2014 and 2035.

Long-term economic growth in Japan is expected to be the slowest among major advanced economies, averaging only 0.7 per cent per year between 2014 and 2035. This reflects a pronounced aging of its population, offshoring of high-productivity manufacturing and the ongoing drag from high levels of public-sector debt.

Emerging market economies will represent an increasingly critical component of the global economy. China's share of global output is expected to grow from 15 per cent in 2013 to 27 per cent by 2035. Over this same period, the U.S. share of the global economy is expected to decline from 19 per cent to 15 per cent.<sup>3</sup>

The rising global share of emerging market economies underscores the importance of current trade policies and investments in Ontario's export sector to promote greater trade diversification. In particular, greater integration into global value chains (GVCs)<sup>4</sup> will be an essential element in Ontario businesses' ability to profit from this trend. Ontario's diverse economy is well positioned to take advantage of this shift in the global economy through increased exports of goods and services from sectors such as agri-food, infrastructure, life sciences, information and communications technology, education, advanced manufacturing and financial services.<sup>5</sup>

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<sup>3</sup> Oxford Economics: Global Economic Databank.

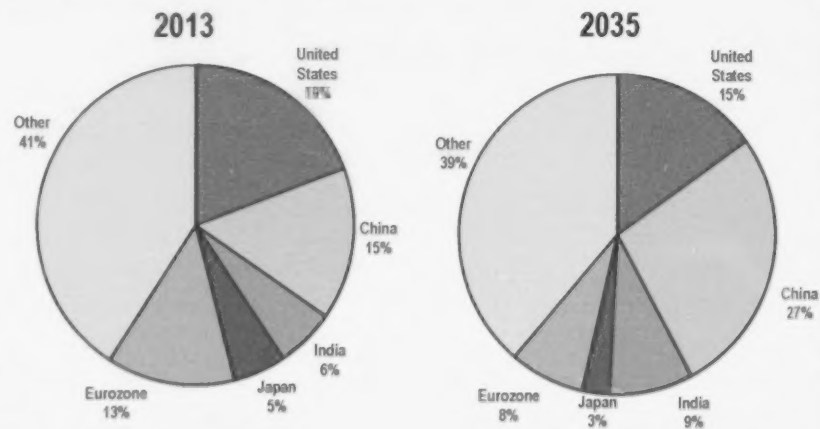
<sup>4</sup> GVCs are an "unbundling" of the production process into activities (e.g., R&D, design and assembly) performed in various parts of the world. Each adds value to the goods or services being produced.

<sup>5</sup> "Advantage Ontario," Jobs and Prosperity Council, (2012).

## Proportion of Global GDP

CHART 2.3

(PPP Exchange Rate, Real, 2005 U.S. Dollars)



Note: Numbers may not add due to rounding.  
Source: Oxford Economics.

Growth in emerging markets, particularly China, is expected to outpace that of advanced economies as these economies continue to converge to developed countries' levels of productivity and consumption. However, an aging population, rising unit labour costs and limits to export-led growth will likely result in a slowing of the current rapid pace of economic expansion. This projection assumes that emerging economies will continue to grow at a brisk, although more moderate, long-term pace. China's growth, in particular, is expected to slow to 6.5 per cent per year on average relative to the 9.6 per cent average annual growth recorded between 1997 and 2013.

## Energy and Commodity Markets

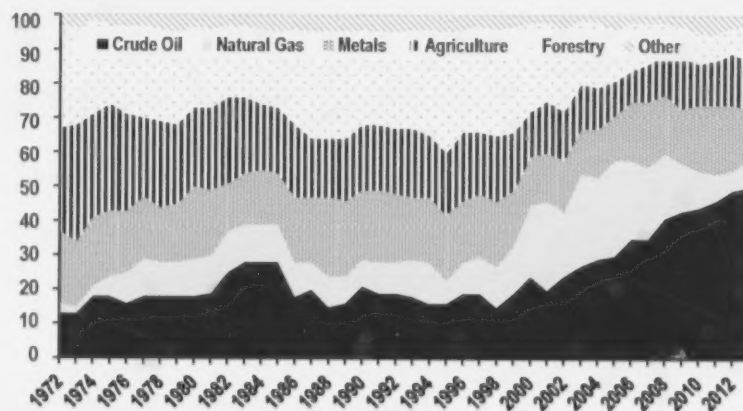
Energy and commodity prices play an important role in long-term economic projections. Prices for raw materials such as agriculture, metals and forestry products are important determinants of income for Ontario producers. Energy products, particularly oil and natural gas, are a significant expenditure for both consumers and industry. In 2010, fossil fuels and related products directly represented 4.4 per cent of total Ontario business costs.

Over the long term, continued growth in the world economy, increased urbanization, rising incomes in the developing world, and expanded use of biofuels should combine to support a long-run increase in both the production and price of agricultural products.

Growing demand for natural gas for heating and electricity generation combined with the development of shale gas will influence the long-term path of natural gas prices. These are projected to increase from \$3.7 US per thousand cubic feet in 2013 to \$7.1 US per thousand cubic feet by 2035. This annual rate of increase is faster than economy-wide price inflation.

Over the long term, oil prices in real terms are expected to rise modestly as the resource becomes increasingly costly to extract. However, new energy-efficient technologies will partially temper this price increase. This projection assumes nominal West Texas Intermediate (WTI) crude oil prices will rise to \$175 US a barrel by 2035. Implicit in this projection is the assumption that resource-rich provinces will benefit from rising prices by accessing new international markets for their oil production.

The Bank of Canada commodity price index shows the increasing importance of crude oil over the past 40 years relative to other commodities, in terms of the value of Canada's total commodity production. This shift largely reflects the increase in oil prices since 2002.

Value Shares in Canadian Commodity Production  
(Per Cent)

Source: Bank of Canada.

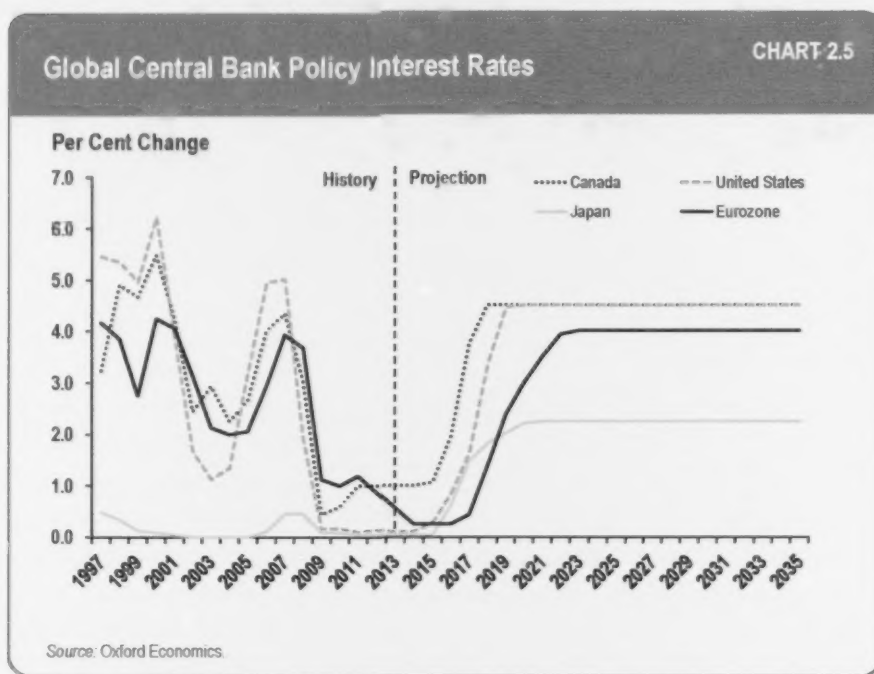
As a net importer of oil, the Ontario economy tends to be hurt by higher oil prices as they raise costs for business and households. Moreover, rising real oil prices tend to boost the exchange rate of the Canadian dollar, with adverse effects on Ontario's net international trade. Offsetting these negative effects is increased demand for Ontario-made manufactured goods and services from oil-exporting provinces. Ontario has also reduced its energy intensity over time, in part as a response to higher prices, a trend expected to continue in the future.

The United States is currently producing more crude oil than at any other time over the last 25 years, largely as a result of new methods to extract the resource from shale formations. This has led many in the energy industry to project that the United States will eventually become a net energy exporter after years of relying on imports to satisfy domestic demand. However, others have argued that production from some of these shale formations appears to be declining at a much faster rate than conventional oil recovery. This has resulted in considerable uncertainty about long-term U.S. energy production and the impact of changes in energy prices on the U.S. economy.

## Global Inflation and Interest Rates

Central bank policy interest rates are close to historic lows in advanced economies. Over the next few years, inflation is expected to gradually rise as improving growth in advanced economies slowly closes the output gap opened by the 2008–09 global financial crisis. Over the long term, this projection assumes that monetary policy will ensure inflationary expectations in Canada remain well anchored near two per cent annually.

As global economic growth continues and inflation rises, policy interest rates are expected to gradually rise to levels consistent with the “normal” level of real interest rates prevailing over the long term. This will take longer for some countries such as Japan and certain members of the Eurozone, reflecting the slower pace of their recoveries.



However, there is also a risk, not explicitly considered in this projection, that interest rates could remain low for a prolonged period. Proponents of this view argue that declining population growth and lower returns from new technologies will reduce demand for new investment and create an excess of savings globally.

## Canadian Dollar

Over the long term, the Canadian dollar is expected to remain mainly within a range of about 90 to 100 cents US. Although the Canadian dollar has fallen below 90 cents US recently, the expected rise in commodity prices should act to return the dollar to within this range.

A lower Canadian dollar acts to increase the price of imported consumer products and also business inputs such as machinery and equipment. On the other hand, a lower Canadian currency can help exporters compete in foreign markets.

For the purposes of this long-term outlook, it is assumed that the Canadian dollar will rise slowly over the projection to just below parity by 2035. This appreciation is consistent with commodity prices continuing to rise modestly in real terms and a small but persistent yield premium for Canadian government debt relative to U.S. treasuries.

The Canada/U.S. exchange rate remains a critical part of the economic projection since the United States will continue to be a major destination for Ontario exports. As of 2013, the United States was the destination for 78 per cent of Ontario's total merchandise exports and the source of 56 per cent of Ontario's merchandise imports.

The appreciation of the Canadian dollar since 2002 resulted in a deterioration of Ontario's cost competitiveness, particularly in manufacturing. Improving competitiveness is one of the most significant challenges facing the Ontario economy over the next 20 years. The exchange rate is expected to remain at the relatively high levels experienced over the last several years. Consequently, Ontario's competitiveness challenges will need to be addressed through raising productivity growth.

## Canadian Dollar

CHART 2.6



Sources: Bank of Canada and Ontario Ministry of Finance.

## Rest of Canada

The rest of Canada will continue to be a vital market for Ontario goods and services.<sup>6</sup> This projection assumes a recovery in global growth led by the United States, as well as relatively strong commodity prices, both of which should support growth in the rest of Canada.

Real economic growth in the rest of Canada is expected to average 2.2 per cent per year from 2014 to 2035, slightly higher than Ontario's projected long-term economic growth rate. This is primarily as a result of the beneficial impact of higher oil and natural gas prices on other provincial economies.

<sup>6</sup> The "rest of Canada" refers to Canadian provinces other than Ontario.

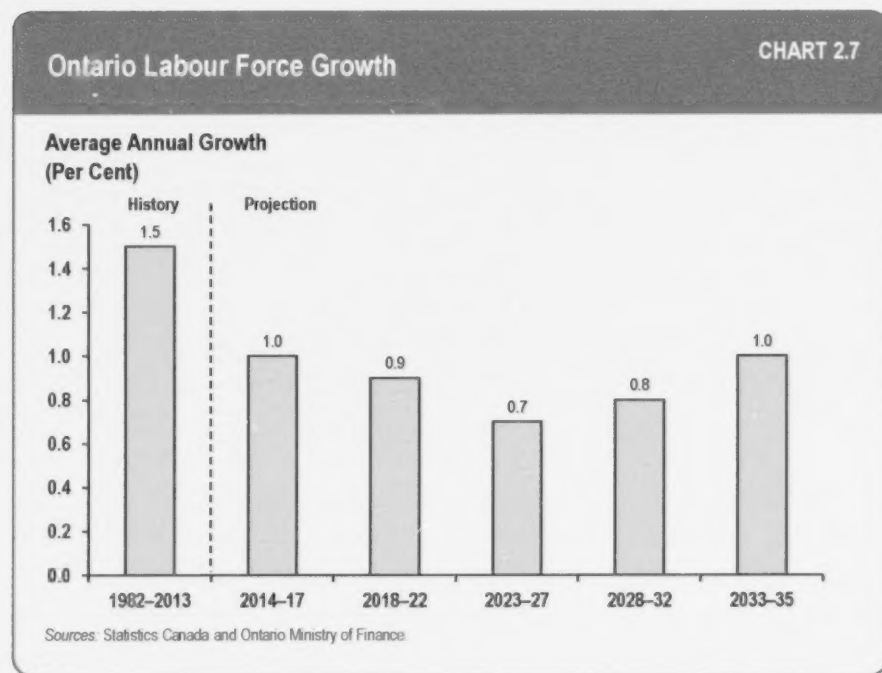


## 2. Ontario's Potential Economic Output

Economists refer to growth in “potential output” as essentially the speed limit at which the economy can grow in the long term without increasing the rate of inflation. The main building blocks of growth in long-term potential output are the growth in the labour supply (which depends on growth in the working-age population and the evolution of the unemployment and labour force participation rates); the growth in private and public capital (e.g., machinery, equipment, plants and public infrastructure); and the efficiency with which workers use capital to produce output (that is, worker productivity).

### Population and Labour Supply

As outlined in Chapter 1: *Population and Labour Force Trends and Projections*, one of the most important long-term economic challenges for Ontario is the slowing growth of the working-age population.



A gradual decline in the overall labour force participation rate, largely as a result of slower growth in the working-age population for most of the forecast horizon, results in a significantly slower rate of growth in the labour force than Ontario has experienced in the past. However, a small increase in the growth rate of the working-age population towards the end of the next decade begins to reverse this trend. In addition, the projection assumes a steady decline in the long-term trend value for the unemployment rate through the middle of the next decade.<sup>7</sup>

## **Capital and Investment**

The availability of capital, both private and public, and its composition are important factors in determining potential economic output. Growth in the private capital stock is based on the pace of new investment, which is driven mainly by expected after-tax returns.

Ontario and Canada's financial markets are well regulated and foster safe, stable and attractive investment opportunities. The government remains committed to modernizing securities laws and the regulatory framework to ensure sound and efficient markets.

Attracting business investments also depends, in part, on maintaining, renewing and developing public infrastructure. The Province has already made — and is continuing to make — significant infrastructure investments to support economic growth. Businesses expect continued investment in public infrastructure, particularly in transportation, to help maintain current networks in a state of good repair and to expand them to meet future needs.

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<sup>7</sup> The trend value of the unemployment rate refers to the unemployment rate consistent with stable inflation.

## Productivity

The rate of productivity growth is a key component in determining Ontario's long-term potential economic output. The importance of strong productivity growth in the future is even more pronounced, given the expected decline in the growth of the labour force.

Ontario's business-sector productivity growth has been weak over the last decade, averaging annual growth of only 0.4 per cent between 2001 and 2011, down from 1.3 per cent between 1985 and 2000. The causes of this slowdown are further explored in Chapter 5: *Productivity in Ontario: Challenges and Opportunities*.

Ontario's productivity is projected to grow by 1.1 per cent on average annually between 2014 and 2035, two-tenths lower than the 1985–2000 historical average. Productivity growth will be driven by innovation, adoption of best practices, development of new products and the diversification of Ontario exports to fast-growing emerging economies. Long-term Ontario labour productivity growth will also benefit from ongoing private investments, public investments in infrastructure, education, skills training and new trade agreements.

Given the inherent uncertainty of productivity projections, the implications of both lower and higher rates of productivity growth for the economy are explored through scenarios later in this chapter.

### Public Infrastructure's Role in Productivity Growth

Public infrastructure investment plays an important role in long-term productivity growth and competitiveness. It enables the concentration of economic resources and provides larger markets for output and employment. For example, efficient transportation systems help firms get their products and services to market faster, access talented employees and increase productivity. At the same time, social infrastructure such as hospitals and schools increases the health status and educational attainment of residents, which in turn contribute to enhanced employment opportunities.

Between 1945 and the early 1970s, Ontario experienced rapid growth in its economy and population, triggering the investments that make up the core of Ontario's current infrastructure. In the early 1970s, public infrastructure investments as a percentage of gross domestic product (GDP) began to fall sharply and remained low until the early 2000s, when investment as a percentage of GDP began to return to historical levels (Chart 2.8).

Public Infrastructure Investment in Ontario —  
All Contributors

CHART 2.8

Per Cent of GDP



Note: Contributors include the federal, provincial and municipal governments, as well as broader public-sector organizations  
Sources: Statistics Canada and Ontario Ministry of Infrastructure

Since 2003, the Province has invested nearly \$100 billion in public infrastructure to reverse the underinvestment that had accumulated over previous decades. Investing in public infrastructure offers long-term benefits to Ontario's economy and helps to increase private-sector productivity and competitiveness.

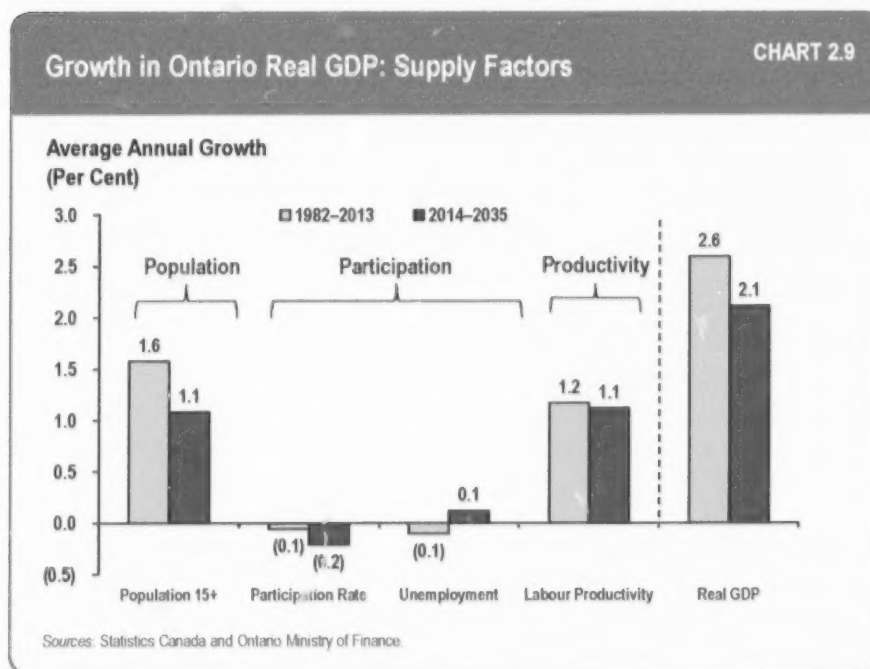
Many studies on the infrastructure-productivity link conclude that public infrastructure reduces the cost of production in the private sector. As the private sector has more public infrastructure investment to work with, output is produced at a lower private cost, resulting in productivity improvements. For example, a 2009 Statistics Canada study estimated that, on average, 50 per cent of Canada's multifactor productivity growth, representing 10 per cent of labour productivity growth overall, in the private sector between 1962 and 2006 was the result of growth in public infrastructure.<sup>8</sup>

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<sup>8</sup> W. Gu and R. MacDonald, "The Impact of Public Infrastructure on Canadian Multifactor Productivity Estimates," (Cat. No. 15-206-X), Statistics Canada, (2009).

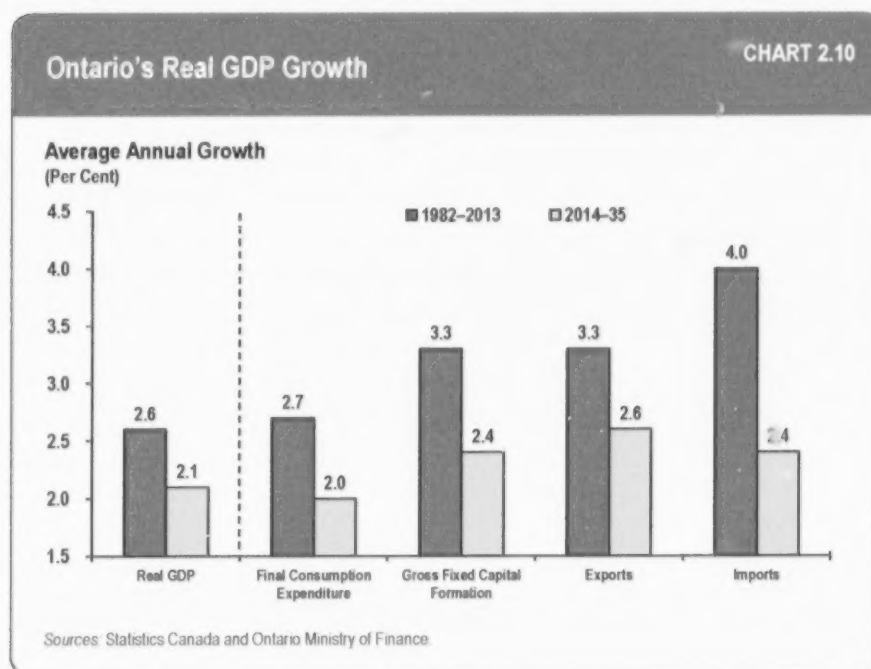
### 3. Details of the Ontario Economic Outlook

The Ministry of Finance is projecting long-term average annual real gross domestic product (GDP) growth of 2.1 per cent between 2014 and 2035 in Ontario, slower than the 2.6 per cent average growth from 1982 to 2013. Ontario economic growth is forecast to rebound in the medium term before trending towards a sustainable long-term potential growth rate of 2.1 per cent annually.



This deceleration is the result of slower growth in the source population and a declining participation rate, offset by a declining unemployment rate. Growth in labour productivity is expected to remain a key component of long-term economic growth.

Over the projection period, a rebound in the growth of net trade is expected to partially offset weaker growth in household and government spending, and business investment. Final consumption expenditures are expected to grow by 2.0 per cent in the long term, in line with the rise in real incomes. Gross fixed capital formation is expected to grow 2.4 per cent per year between 2014 and 2035, driven by both public- and private-sector investment.



International and interprovincial trade will remain important sources of economic growth for the Ontario economy. Globalization and the rising importance of global value chains (GVCs) will continue to change the nature of international trade. An increasing share of goods and services exports is integrated into the production of other goods and services, as opposed to being sold directly to final consumers. These exports will increasingly include knowledge-intensive, innovative Ontario products that are incorporated into higher value-added products.



Within global value chains, emerging market economies will increase their role as the world's major manufacturing assembly location. In the next 20 years, emerging economies are also expected to be one of the world's fastest-growing consumer markets. The rapid growth of higher-income consumers, who will demand more high-quality goods and services, will be an important driving factor in world manufacturing and a major contributor to regional economic growth.<sup>9</sup> This growth will open opportunities for Ontario companies to increase their participation in global value chains.

Economic growth in the rest of Canada and the United States will also support rising growth in Ontario exports. An improvement in Ontario productivity will help to mitigate the impact of a stronger Canadian dollar on Ontario's cost competitiveness. Ontario real exports are projected to increase by an average of 2.6 per cent per year over the next 20 years.

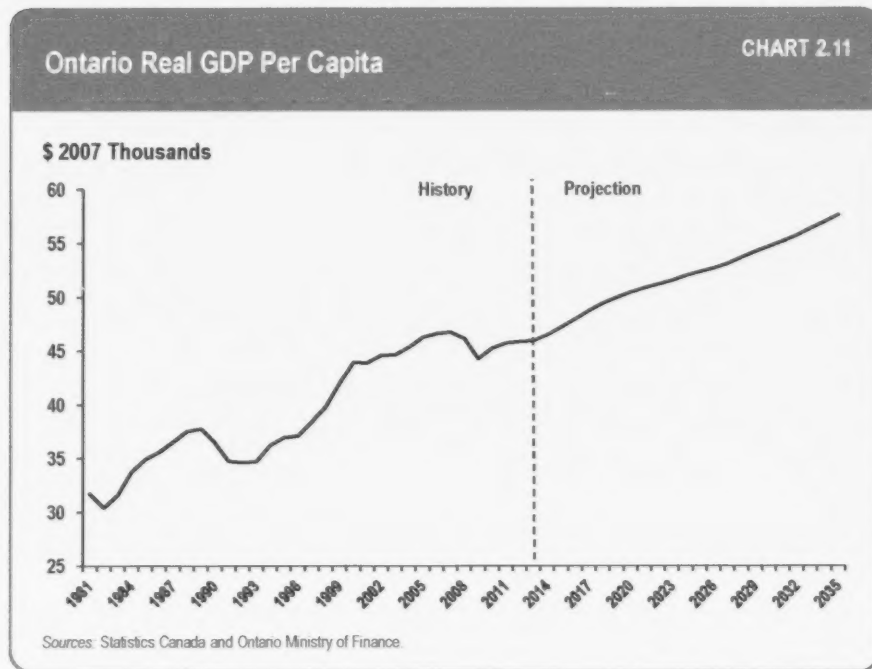
#### **Ontario Trade Missions**

The government is supporting trade missions to key markets worldwide to promote the Ontario economy as an internationally competitive source of products and innovative solutions, a strategic location for investment, and a leading partner for collaborative research and innovation in priority sectors. Markets include Asia, the European Union, Russia, the Middle East, Latin America and the United States. Recently, Ontario led trade missions to Paris, Stuttgart, Tokyo, San Francisco and Israel.

The Province is also helping Ontario firms capitalize on export opportunities through International Marketing Centres (IMCs) that help cultivate global business connections. These include a new IMC opening in São Paulo, Brazil. The Brazilian economy promises to generate strong demand in areas where Ontario has expertise, including infrastructure development, information technology, agri-food, mining, and financial services. Ontario also has IMCs in New York, San Francisco, Mexico City, London, Paris, Munich, Beijing, Shanghai, Tokyo and New Delhi, including a satellite office in Mumbai.

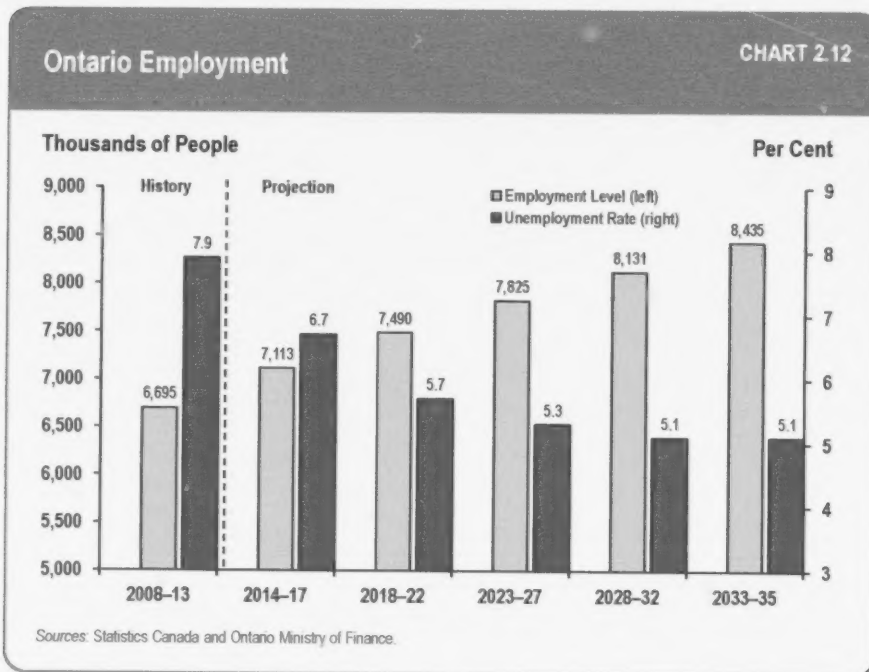
<sup>9</sup> H. Kharas, "The Emerging Middle Class in Developing Countries," *OECD Development Centre Working Paper 285*, (2010): 28.

Continued, albeit more moderate, economic growth will support gains in real GDP per capita.



Real GDP per capita grew from \$31,700 in 1981 to \$46,000 in 2013. The Ministry of Finance projects real GDP per capita will further grow to \$57,600 by 2035.

The pace of long-term economic growth will support continued gains in the job market. Employment growth in Ontario is expected to average 1.0 per cent per year between 2014 and 2035, and the unemployment rate is expected to trend down to 5.1 per cent.



## 4. Alternative Growth Scenarios

In this section, two alternative scenarios of high and low growth are developed based on alternative paths for labour productivity growth. These alternative scenarios highlight the critical importance of productivity growth to the long-term prosperity of Ontario.

In the base-case projection, long-term labour productivity grows at an average annual rate of 1.1 per cent between 2019 and 2035, slightly lower than the pace of growth between 1985 and 2000, but stronger than the pace of productivity growth over the past decade.

### High-Growth Scenario

In this scenario, higher investments by government and business and higher returns from new technologies lead to labour productivity growth that is 0.3 percentage points stronger on average than in the base case over the 2019 to 2035 period.<sup>10</sup> The pace of industrial restructuring is also assumed to be more rapid than in the base case, facilitating the transition of workers and capital to new emerging industries (see Chapter 3: *The Changing Shape of Ontario's Economy*).

Stronger business investment occurs in part because of a robust private-sector response to Ontario's competitive tax environment. New investment opportunities are also created by new trade agreements. As well, unit labour costs are expected to rise in Asia, which allows Ontario to benefit from the "on-shoring" of capital-intensive manufacturing both directly and through links to North American global value chains. Future investment would also benefit from Ontario's strong and stable financial sector, and the government's commitment to modernize securities laws and regulations.

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<sup>10</sup> The alternative scenarios begin in 2019 to recognize the greater uncertainty beyond the government's current planning assumptions.

Higher productivity in this scenario would also be supported by the robust pace of investments in infrastructure, which research has linked to higher rates of economic and productivity growth. For example, a 2013 Conference Board of Canada report studying Ontario's recent and planned infrastructure investments (2006 to 2014) found that each \$100 million (inflation-adjusted) investment boosts real GDP by \$114 million in the near term. The report estimated that the impact of these investments alone increases the real productive capacity of the province by 1.2 to 3.0 per cent in 2014.<sup>11</sup>

Stronger investment leading to higher productivity would allow Ontario to expand its trade globally. Stronger exports, including to fast-growing emerging market economies, would in turn lead to stronger productivity and even more exports.

Finally, stronger economic growth would make Ontario a more attractive destination for immigrants from other countries and provinces. This would lead to a faster pace of underlying population growth and higher growth in the labour force, a key determinant of long-term potential output.

## **Low-Growth Scenario**

The rate of productivity growth in Ontario has been relatively weak over the last decade. Between 2001 and 2011, Ontario business sector labour productivity increased by just 0.4 per cent a year on average. In this low growth scenario, labour productivity is assumed to grow at an average annual pace of 0.8 per cent a year between 2019 and 2035, or 0.3 percentage points a year more slowly than the reference case. Given recent historical experience, there is a risk that productivity growth could be even lower.

If Ontario does not make important private and public investments, future growth in labour productivity is likely to be lower than expected. This includes investments in information and communications technologies, advanced manufacturing processes and sustainable resource extraction, as well as public-sector investments in infrastructure, health and education.

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<sup>11</sup> P. Antunes and J. Palladini, "The Economic Impact of Ontario's Infrastructure Investment Program," Conference Board of Canada, (April 2013).

Weaker private-sector investment could be the result of conditions largely outside Ontario businesses' control, such as weak growth in the province's major trading partners, diminishing returns to technological innovations (especially in resources and fossil fuels) or economic and geopolitical uncertainty, including the risk of a future global financial crisis.

Lower productivity growth would likely result in Ontario not reversing the loss of competitiveness that occurred as a result of the appreciation of the Canadian dollar since 2002 and the emergence of low-cost global manufacturing. Without a significant improvement in Ontario's relative cost competitiveness, Ontario's exports, output, employment, wage rates and other income would all be lower.

Weaker economic growth would also result in Ontario attracting fewer workers from both other countries and the rest of Canada.

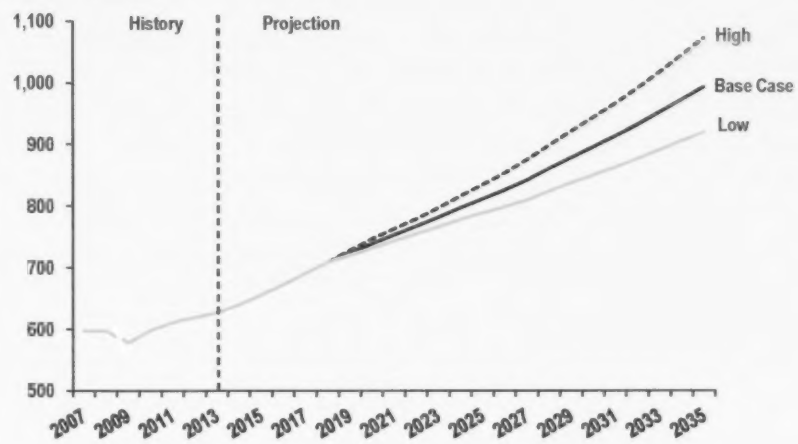
### **Impact of Alternative Productivity Growth Assumptions**

By the end of the forecast horizon, Ontario real GDP is projected to be \$993 billion (2007 prices). Under the high-productivity scenario, real GDP is expected to grow to \$1,071 billion (7.9 per cent above the reference case), while under the low-productivity scenario, real GDP would grow to \$920 billion (7.3 per cent below the reference case). These alternative scenarios illustrate that small changes in the annual growth rate of productivity can result in considerable differences in the size of the economy over the long term and, by implication, growth in household incomes and spending as well as government revenues and program spending.

# Impact of High and Low Productivity Growth

CHART 2.13

## Ontario Real GDP (\$ 2007 Billions)



Sources: Statistics Canada and Ontario Ministry of Finance.



## **5. Risks to the Outlook**

The long-term projection outlined in this chapter is based on a set of reasonable assumptions and likely economic outcomes. However, each of these assumptions could be different depending on the global economic environment. As a result, the actual long-term path for the Ontario economy could well be either stronger or weaker than this base-case projection. As noted earlier, it is not possible to quantify the risks of possible unforeseen events that could significantly impact the long-term outlook for the Ontario economy. This section highlights three key risks to the projection: technological change, emerging market competition and rising income inequality.

### **Technological Change**

Although the apparent pace of technological change accelerated with the introduction of the internet, smartphones and biotechnology, the gains from these advances have not resulted in an acceleration of economic growth. Moreover, there is a risk that even if Ontario achieves faster growth as a result of new technologies, it will primarily be labour saving (e.g., robotics), resulting in less demand for employment.

Consequently, a significant risk to Ontario's future economic growth depends on whether the apparent slowdown in returns to technological change is permanent or temporary. It also remains to be seen whether Ontario, Canada and other advanced economies can fully catch up to the United States in terms of productivity growth. A significant catch-up in the future would represent a large upside opportunity for Ontario's economic projection.

### **Emerging Market Competition**

As the developed world endures a prolonged period of relatively slow economic growth, emerging market economies in Asia, Africa, South America and the Middle East continue to expand at a relatively rapid pace. This presents Ontario with an opportunity to diversify its exports to take advantage of these rapidly growing markets. Ontario will also continue to benefit from a wealth of relatively low-cost imported products.

However, there is a risk that Ontario might not be able to fully benefit from the growth of emerging market economies, particularly if it fails to offer the goods and services these countries want, at a competitive cost. Failure to take advantage of these opportunities may also be beyond Ontario's control. For example, there is a risk that many companies could be locked out of fast-growing emerging markets, due to licensing and foreign ownership rules.

### **Rising Income Inequality**

Recent economic studies have suggested that rising income inequality may have a negative impact on economic growth. Rising income inequality is primarily a reflection of rapid gains in labour market earnings at the top of the income distribution. Technological change, globalization and changing social norms are believed to have contributed to the rise of income inequality. In Ontario, income inequality has remained largely unchanged over the past decade and its future path is uncertain. Attention to the effects of income inequality is important because, at some point, increased inequality can contribute to social instability, impacting economic growth. At the same time, policies to reduce inequality, although well intended, may unintentionally lessen incentives to invest, harming productivity and growth.

## Appendix I: Climate Change

Climate change threatens the natural and built environment as well as the long-term sustainability of Ontario's economy. The burning of fossil fuels for energy, heat, transportation, agricultural activity, disposing of waste in landfills and industrial activity, all contribute to climate change. In Ontario, climate change is having many impacts, including greater stress on infrastructure from extreme weather events; increased demand on emergency services; longer growing seasons for the agricultural sector; and lower lake levels. The Insurance Bureau of Canada links extreme weather events to climate change and estimates that these weather events cost Canadian insurers \$1.6 billion in 2011,<sup>12</sup> with early estimates for 2013 at \$3.2 billion.

In Ontario, across Canada and around the world, jurisdictions are developing and implementing policies and programs to reduce greenhouse gas (GHG) emissions. Governments are also focusing on sustainable development to help industries remain competitive in the emerging low-carbon economy.

The Ontario government introduced its Climate Change Action Plan (CCAP) in 2007, providing a framework for actions to reduce Ontario's total GHG emissions and support a sustainable, clean, low-carbon economy. Specifically, the plan includes targets for reducing GHG emissions in Ontario:

- 6 per cent below 1990 levels by 2014;
- 15 per cent below 1990 levels by 2020; and
- 80 per cent below 1990 levels by 2050.

The CCAP is updated through regular reports describing the Province's progress on existing and new initiatives.

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<sup>12</sup> Institute for Catastrophic Loss Reduction, "Telling the Weather Story," prepared by the Insurance Bureau of Canada, (June 2012).

Current estimates of emission reductions suggest that Ontario is about 90 per cent of the way towards meeting its 2014 targets and 60 per cent to its 2020 targets. A significant part of Ontario's success in reducing emissions can be attributed to the elimination of coal-fired electricity and investment in clean energy sources. Ontario's elimination of coal-fired electricity generation is the single largest greenhouse-gas reduction measure implemented in North America to date.

The Province is making significant progress in several key areas, including developing cleaner sources of energy, expanding public transit, encouraging sustainable development and protecting green space.

Ontario continues to develop a provincial GHG emission-reduction program and build a clean economy that attracts investments, supports job creation and protects the environment. It is currently consulting on a greener diesel mandate. It also plans to be the first Canadian province to sell green bonds to help finance infrastructure projects with environmental benefits across the province. Investing in infrastructure is an economic priority that will help make the province more competitive and productive, while improving quality of life.

In 2011, the government introduced Climate Ready: Ontario's Adaptation Strategy and Action Plan. Some of the goals of Climate Ready are to reduce loss of life, property and resources; avoid unsustainable investment; and take advantage of economic opportunities. Climate Ready outlines a framework for action across key sectors. Actions include undertaking infrastructure vulnerability assessments; strengthening the winter road network; integrating business risk-management approaches into agricultural practices; and developing guidance for storm-water management.

Taking early action to reduce the emissions of GHGs will lower the overall cost of abatement and help Ontario achieve environmentally sustainable, long-term economic growth. Climate change-related investments and supporting policies can help mitigate the impact on competitiveness, while creating business opportunities in the green economy.

## **Appendix II: Ontario's Long-Term Energy Plan**

Providing long-term clean, reliable and affordable power is part of the government's economic plan for jobs and growth.

### **Investments to Modernize Ontario's Electricity System**

Since 2003, more than 10,000 kilometres of transmission and distribution lines have been upgraded in the province and over \$11 billion has been invested in transmission and distribution networks by Hydro One alone, including the Bruce-to-Milton transmission reinforcement project. As well, about 12,000 megawatts (MW) of new and refurbished generating capacity have been added, representing investments of over \$21 billion. Today, Ontario is a world leader in energy technology, innovation and smart grid solutions.

### **Achieving Balance**

In December 2013, Ontario released an updated Long-Term Energy Plan (LTEP) and announced the Conservation First policy focusing on rate mitigation over major investments in generation or transmission to curb costs for ratepayers. This will mean pursuing lower-cost options to meet energy needs when and where they are needed and other initiatives to reduce the cost increases in electricity now and in the future. Compared to the previous plan, the 2013 LTEP is expected to reduce projected cost increases by a cumulative \$16 billion in the near term (2013–17), and \$70 billion by 2030.

Conserving energy not only saves money for families and businesses, but it also lowers demand on the electricity system and helps reduce GHG emissions. The Province expects to offset most of the growth in electricity demand to 2032 using programs and improved codes and standards.

- Ontario will expand Demand Response programs to help achieve a 10 per cent reduction in peak demand by 2025. This is equivalent to approximately 2,400 MW under today's forecast conditions — or twice the average demand of Hamilton and Kitchener combined.
- The government will work to make new financing tools available to consumers, starting in 2015. This will allow consumers to save money on their energy bill and pay off conservation investments over time as they receive the benefits.

Nuclear refurbishments at both Darlington and Bruce Generating Stations are also planned to begin in 2016. The phasing-in of wind, solar and bioenergy projects will bring 10,700 MW online by 2021. By 2025, about half of Ontario's installed generating capacity will come from renewable sources.

**Table 2.3 Ontario Key Economic Variables (Base Case)**

| Average Growth (Per Cent)          | (History) | (Projection) |         |         |         |         |         |
|------------------------------------|-----------|--------------|---------|---------|---------|---------|---------|
|                                    | 1982-2013 | 2014-17      | 2018-22 | 2023-27 | 2028-32 | 2033-35 | 2014-35 |
| <b>Real Gross Domestic Product</b> | 2.6       | 2.5          | 2.1     | 1.9     | 2.1     | 2.1     | 2.1     |
| Final Consumption Expenditure      | 2.7       | 1.7          | 2.1     | 1.8     | 2.0     | 2.1     | 2.0     |
| Gross Fixed Capital Formation      | 3.3       | 2.1          | 2.8     | 2.3     | 2.3     | 2.5     | 2.4     |
| Exports                            | 3.3       | 3.5          | 2.7     | 2.2     | 2.3     | 2.5     | 2.6     |
| Imports                            | 4.0       | 2.5          | 2.7     | 2.2     | 2.3     | 2.5     | 2.4     |
| Nominal Gross Domestic Product     | 5.3       | 4.2          | 4.1     | 3.8     | 4.0     | 4.1     | 4.0     |
| <b>Other Economic Indicators</b>   |           |              |         |         |         |         |         |
| Housing Starts (000s)              | 66.1      | 63.5         | 71.2    | 73.9    | 73.7    | 71.8    | 71.1    |
| Primary Household Income           | 5.1       | 4.3          | 4.4     | 3.8     | 4.1     | 4.0     | 4.1     |
| <b>Labour Market</b>               |           |              |         |         |         |         |         |
| Participation Rate                 | 67.5      | 66.2         | 65.8    | 64.8    | 63.7    | 63.4    | 64.8    |
| Labour Force                       | 1.5       | 1.0          | 0.9     | 0.7     | 0.8     | 1.0     | 0.9     |
| Employment                         | 1.5       | 1.4          | 1.0     | 0.8     | 0.8     | 1.0     | 1.0     |
| Unemployment Rate                  | 7.7       | 6.7          | 5.7     | 5.3     | 5.1     | 5.1     | 5.6     |
| <b>Productivity</b>                |           |              |         |         |         |         |         |
| Real GDP per Hour                  | 1.2       | 1.0          | 1.1     | 1.1     | 1.2     | 1.1     | 1.1     |
| <b>Prices</b>                      |           |              |         |         |         |         |         |
| Consumer Price Index               | 3.0       | 1.9          | 2.0     | 2.0     | 2.0     | 2.0     | 2.0     |

Note: Projections for the 2014-17 period are the government's current planning assumptions.



**Table 2.4 Ontario Key Economic Assumptions (Base Case Projections)**

|                                                   | Projection (Average) |         |         |         |         |
|---------------------------------------------------|----------------------|---------|---------|---------|---------|
|                                                   | 2014-17              | 2018-22 | 2023-27 | 2028-32 | 2033-35 |
| Rest-of-Canada Real GDP (Per Cent Change)         | 2.5                  | 2.2     | 2.2     | 2.1     | 2.1     |
| Rest-of-Canada GDP Deflator (Per Cent Change)     | 1.9                  | 2.0     | 2.0     | 2.0     | 2.0     |
| U.S. Real GDP (Per Cent Change)                   | 2.9                  | 2.4     | 2.2     | 2.2     | 2.2     |
| U.S. GDP Deflator (Per Cent Change)               | 1.9                  | 2.0     | 2.0     | 2.0     | 2.0     |
| Canadian Dollar (Cents US)                        | 93                   | 94      | 96      | 97      | 99      |
| 90-Day Treasury Bill Rate (Per Cent)              | 2.1                  | 4.1     | 4.2     | 4.2     | 4.2     |
| 10-Year Government of Canada Bond Rate (Per Cent) | 3.7                  | 5.1     | 5.2     | 5.2     | 5.2     |
| U.S. 90-Day Treasury Bill Rate (Per Cent)         | 1.5                  | 3.9     | 4.1     | 4.1     | 4.1     |
| 10-Year U.S. Government Bond Rate (Per Cent)      | 3.9                  | 5.0     | 5.1     | 5.1     | 5.1     |
| U.S. WTI Oil Price (US\$ per Barrel)              | 97                   | 108     | 127     | 149     | 170     |
| U.S. Natural Gas Rate (US\$ per mm BTU)           | 4.1                  | 4.4     | 5.2     | 6.1     | 6.9     |

Note: Projections for the 2014-17 period are the government's current planning assumptions

**Table 2.5 Ontario Key Economic Variables (High Productivity)**

| Average Growth (Per Cent)             | (History) | (Projection) |         |         |         |         |         |
|---------------------------------------|-----------|--------------|---------|---------|---------|---------|---------|
|                                       | 1982-2013 | 2014-17      | 2018-22 | 2023-27 | 2028-32 | 2033-35 | 2014-35 |
| <b>Real Gross Domestic Product</b>    | 2.6       | 2.5          | 2.4     | 2.3     | 2.5     | 2.7     | 2.5     |
| Final Consumption Expenditure         | 2.7       | 1.7          | 2.4     | 2.0     | 2.3     | 2.4     | 2.2     |
| Gross Fixed Capital Formation         | 3.3       | 2.1          | 3.7     | 3.0     | 2.9     | 3.3     | 3.0     |
| Exports                               | 3.3       | 3.5          | 3.0     | 2.7     | 2.8     | 3.0     | 3.0     |
| Imports                               | 4.0       | 2.5          | 3.0     | 2.4     | 2.6     | 2.8     | 2.6     |
| <b>Nominal Gross Domestic Product</b> | 5.3       | 4.2          | 4.6     | 4.3     | 4.5     | 4.6     | 4.4     |
| <b>Other Economic Indicators</b>      |           |              |         |         |         |         |         |
| Housing Starts (000s)                 | 66.1      | 63.5         | 73.1    | 79.7    | 81.0    | 79.8    | 75.6    |
| Primary Household Income              | 5.1       | 4.3          | 4.9     | 4.2     | 4.5     | 4.5     | 4.5     |
| <b>Labour Market</b>                  |           |              |         |         |         |         |         |
| Participation Rate                    | 67.5      | 66.2         | 65.8    | 64.9    | 63.9    | 63.7    | 65.0    |
| Labour Force                          | 1.5       | 1.0          | 1.0     | 0.9     | 1.0     | 1.1     | 1.0     |
| Employment                            | 1.5       | 1.4          | 1.1     | 0.9     | 1.0     | 1.2     | 1.1     |
| Unemployment Rate                     | 7.7       | 6.7          | 5.5     | 5.3     | 5.0     | 5.1     | 5.5     |
| <b>Productivity</b>                   |           |              |         |         |         |         |         |
| Real GDP per Hour                     | 1.2       | 1.0          | 1.3     | 1.4     | 1.6     | 1.4     | 1.4     |
| <b>Prices</b>                         |           |              |         |         |         |         |         |
| Consumer Price Index                  | 3.0       | 1.9          | 2.2     | 2.0     | 2.0     | 2.0     | 2.0     |

**Table 2.6 Ontario Key Economic Variables (Low Productivity)**

| Average Growth (Per Cent)             | (History) | (Projection) |         |         |         |         |         |
|---------------------------------------|-----------|--------------|---------|---------|---------|---------|---------|
|                                       | 1982-2013 | 2014-17      | 2018-22 | 2023-27 | 2028-32 | 2033-35 | 2014-35 |
| <b>Real Gross Domestic Product</b>    | 2.6       | 2.5          | 1.8     | 1.4     | 1.6     | 1.6     | 1.8     |
| Final Consumption Expenditure         | 2.7       | 1.7          | 1.9     | 1.6     | 1.8     | 1.9     | 1.8     |
| Gross Fixed Capital Formation         | 3.3       | 2.1          | 1.9     | 1.7     | 1.8     | 1.8     | 1.9     |
| Exports                               | 3.3       | 3.5          | 2.5     | 1.7     | 1.8     | 1.9     | 2.2     |
| Imports                               | 4.0       | 2.5          | 2.4     | 1.9     | 2.1     | 2.3     | 2.2     |
| <b>Nominal Gross Domestic Product</b> | 5.3       | 4.2          | 3.6     | 3.3     | 3.5     | 3.6     | 3.6     |
| <b>Other Economic Indicators</b>      |           |              |         |         |         |         |         |
| Housing Starts (000s)                 | 66.1      | 63.5         | 69.4    | 68.1    | 66.5    | 64.0    | 66.6    |
| Primary Household Income              | 5.1       | 4.3          | 3.8     | 3.4     | 3.6     | 3.6     | 3.7     |
| <b>Labour Market</b>                  |           |              |         |         |         |         |         |
| Participation Rate                    | 67.5      | 66.2         | 65.8    | 64.7    | 63.5    | 63.1    | 64.7    |
| Labour Force                          | 1.5       | 1.0          | 0.8     | 0.6     | 0.7     | 0.8     | 0.8     |
| Employment                            | 1.5       | 1.4          | 0.9     | 0.7     | 0.7     | 0.9     | 0.9     |
| Unemployment Rate                     | 7.7       | 6.7          | 5.9     | 5.2     | 5.1     | 5.1     | 5.6     |
| <b>Productivity</b>                   |           |              |         |         |         |         |         |
| Real GDP per Hour                     | 1.2       | 1.0          | 0.9     | 0.8     | 0.9     | 0.7     | 0.9     |
| <b>Prices</b>                         |           |              |         |         |         |         |         |
| Consumer Price Index                  | 3.0       | 1.9          | 1.9     | 2.0     | 2.0     | 2.0     | 2.0     |



## CHAPTER 3: THE CHANGING SHAPE OF ONTARIO'S ECONOMY

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### INTRODUCTION

Economies are continuously adapting to changing market forces. In the case of Ontario, its firms and workers are adapting to such recent economic challenges as the high Canadian dollar, high oil prices and changing global trade patterns.

Ontario's economy will continue to transform as new challenges and opportunities emerge. The government has worked to create strong economic fundamentals — including a strong business climate built around competitive tax rates, an effective regulatory system, a skilled and healthy workforce, and modern infrastructure — to help mitigate challenges and allow firms and workers to seize future opportunities.

Despite recent challenges, Ontario's manufacturing sector is already adapting to changing global economic realities. Manufacturing will continue to constitute a significant part of Ontario's economic output and employment. Advanced manufacturing, based on innovative technologies, significant private capital investment and highly trained workers, is able to take advantage of Ontario's strong economic fundamentals to remain internationally competitive.

### **Global Economic Restructuring: The Future of Manufacturing in Advanced Economies**

Ontario's economy has undergone major restructuring over the past decade. The biggest change has been the relative decline of output and employment in the manufacturing sector. This is characteristic of a longer-run global shift towards greater output and employment in service industries. The transformation has also taken place in other advanced economies as lower value-added production in certain industries shifts to low-cost jurisdictions, a trend that accelerated during the global recession. As incomes rise, consumers also start to spend relatively more on services.

Manufacturing is generally a highly productive activity, and improvements in technology have allowed a smaller number of people to produce greater quantities of goods. The nominal value of manufacturing sales increased 67.7 per cent between 1993 and 2013 to almost \$270 billion, a compound annual growth rate of 2.6 per cent.

This trend towards lower labour-intensity in manufacturing is comparable, for instance, to an earlier wave of global technological innovation in agriculture that allowed a smaller number of farm-sector workers to feed the world's growing population. In advanced economies, this has led to agricultural sectors that produce more high-quality foods, while employing a smaller share of the workforce; in Canada, over 40 per cent of the labour force was employed in "agricultural pursuits" in 1901 compared to agricultural-sector employment of less than two per cent of workers in 2013.

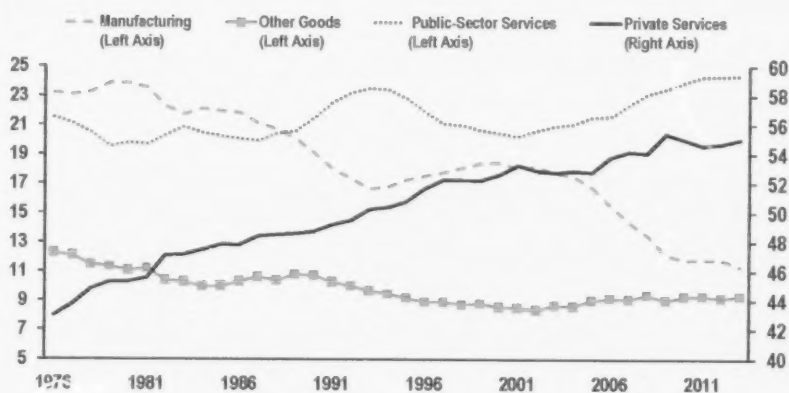
In the short run, these changes might result in lower employment in the affected industries or temporarily higher unemployment. However, in the long run, improvements in productivity and technology have been the basis for increased economic well-being.

Canada's strong resources sector has helped increase wages across the economy as well as contributed to the rise in the Canadian dollar exchange rate. While the increasing relative price of resources has contributed to rising national income in Canada, it has also increased the speed at which manufacturing jobs have moved to lower-cost jurisdictions.

### Service Sector's Share of Ontario Employment Increasing

CHART 3.1

Per Cent



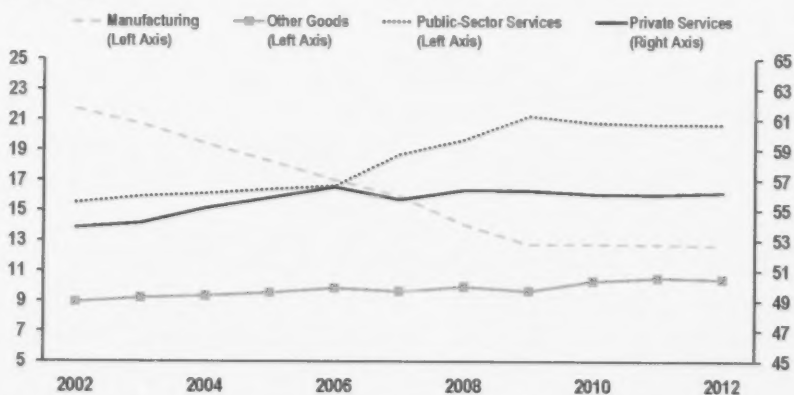
Notes: Other Goods includes agriculture, fishing, forestry, mining, utilities and construction. Public Sector Services includes educational services, health care and social assistance, and public administration.

Source: Statistics Canada, Labour Force Survey.

### Service Sector's Share of Ontario GDP Increasing

CHART 3.2

Per Cent



Notes: Other Goods includes agriculture, fishing, forestry, mining, utilities and construction. Public Sector Services includes educational services, health care and social assistance, and public administration.

Source: Statistics Canada.



A closer look at the economy in Tables 3.1 and 3.2 shows that the decline in manufacturing's share of output and employment has been offset by gains in a wide variety of private and public service sectors, including knowledge-intensive industries such as professional, scientific and technical services, health care and financial services, many of which are traded internationally.<sup>1</sup>

**Table 3.1 Nominal GDP Share of Major Ontario Sectors  
(Per Cent)**

| Sector                                          | 2002        | 2007        | 2012        |
|-------------------------------------------------|-------------|-------------|-------------|
| <b>Goods-Producing Sector</b>                   | <b>30.7</b> | <b>25.6</b> | <b>23.2</b> |
| Manufacturing                                   | 21.7        | 16.0        | 12.7        |
| Other Goods-Producing Industries                | 8.9         | 9.6         | 10.5        |
| <b>Private Services-Producing Sector</b>        | <b>53.8</b> | <b>55.7</b> | <b>56.2</b> |
| Wholesale and Retail Trade                      | 11.0        | 11.6        | 11.2        |
| Transportation and Warehousing                  | 4.0         | 3.7         | 3.8         |
| Information and Cultural                        | 3.8         | 3.7         | 3.8         |
| Financial Services                              | –           | 9.2         | 8.9         |
| Real Estate and Rental and Leasing              | –           | 12.4        | 13.0        |
| Professional, Scientific and Technical Services | 5.4         | 6.2         | 6.6         |
| Management, Administrative and Support          | –           | 4.2         | 4.0         |
| Arts, Entertainment and Recreation              | 1.0         | 0.8         | 0.8         |
| Accommodation and Food Services                 | 2.3         | 1.8         | 1.9         |
| Other Services                                  | 2.4         | 2.0         | 2.0         |
| <b>Public-Sector Services</b>                   | <b>15.5</b> | <b>18.7</b> | <b>20.7</b> |
| Education                                       | 4.5         | 5.4         | 5.9         |
| Health Care and Social Assistance               | 5.9         | 6.5         | 7.1         |
| Public Administration                           | 5.1         | 6.8         | 7.7         |

Notes: Other Goods-Producing Industries includes agriculture, fishing, forestry, mining, utilities and construction.

“–” indicates that disaggregated data are not available for the sector in that year.

Source: Statistics Canada.

<sup>1</sup> Data on nominal GDP shares by province and sector are only available from 2002 (CANSIM Table 379-0028). The longer Labour Force Survey data series for employment provides a 20-year perspective.

**Table 3.2 Employment Share of Major Ontario Sectors  
(Per Cent)**

| Sector                                          | 1993        | 2003        | 2013        |
|-------------------------------------------------|-------------|-------------|-------------|
| <b>Goods-Producing Sector</b>                   | <b>26.3</b> | <b>26.4</b> | <b>20.6</b> |
| Manufacturing                                   | 16.6        | 17.7        | 11.3        |
| Other Goods-Producing Industries                | 9.7         | 8.7         | 9.3         |
| <b>Private Services-Producing Sector</b>        | <b>50.2</b> | <b>52.7</b> | <b>55.0</b> |
| Wholesale and Retail Trade                      | 15.6        | 15.0        | 14.8        |
| Transportation and Warehousing                  | 4.4         | 4.7         | 4.8         |
| Information and Cultural                        | 2.6         | 2.5         | 2.3         |
| Financial Services                              | 5.0         | 4.9         | 5.6         |
| Real Estate and Rental and Leasing              | 2.4         | 1.8         | 2.0         |
| Professional, Scientific and Technical Services | 5.4         | 7.2         | 8.3         |
| Management, Administrative and Support          | 3.1         | 4.3         | 4.6         |
| Arts, Entertainment and Recreation              | 1.6         | 2.3         | 2.3         |
| Accommodation and Food Services                 | 5.5         | 5.9         | 6.2         |
| Other Services                                  | 4.5         | 4.2         | 4.1         |
| <b>Public-Sector Services</b>                   | <b>23.5</b> | <b>20.9</b> | <b>24.4</b> |
| Education                                       | 7.1         | 6.1         | 7.5         |
| Health Care and Social Assistance               | 10.0        | 9.8         | 11.4        |
| Public Administration                           | 6.4         | 5.0         | 5.4         |

Note: Other Goods-Producing Industries includes agriculture, fishing, forestry, mining, utilities and construction.

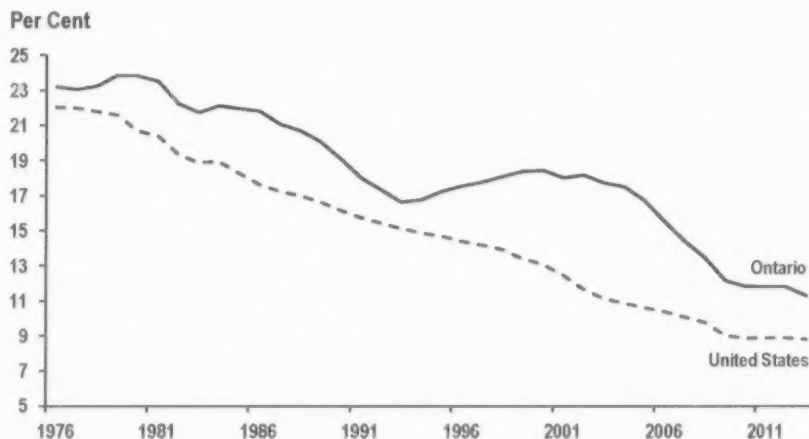
Source: Statistics Canada, Labour Force Survey.

Accompanying the structural changes, Ontario's economy has been growing over the past two decades. The province's real gross domestic product (GDP) in 2012 was about \$620 billion, a 14.9 per cent increase over 2002 and 69.1 per cent higher than in 1992. Employment in Ontario was about 6.9 million workers in 2013 — 10.7 per cent higher than in 2003 and 39.3 per cent higher than in 1993.

The relative decline in Ontario's manufacturing sector is comparable to the decline in the U.S. manufacturing sector (see Chart 3.3). Factors including the low Canadian dollar helped to arrest Ontario's manufacturing sector's relative decline from the mid-1990s to around 2002. The exchange rate plunged to nearly 60 cents US per Canadian dollar at its lowest point, giving manufacturers a big cost advantage over competitors from south of the border. Despite the loss of this cost advantage, manufacturing still accounts for a larger share of the economy in Ontario than in the United States.

**Manufacturing Sector's Declining Employment Share in Ontario Is Comparable to U.S. Change**

**CHART 3.3**

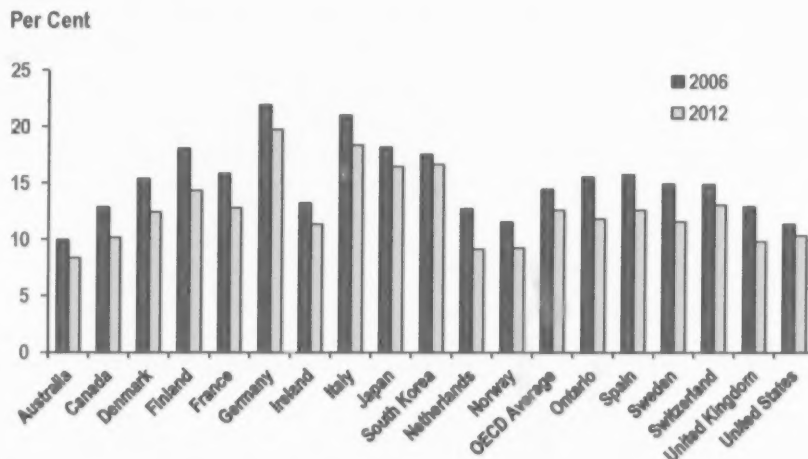


Note: U.S. values are manufacturing as share of total non-farm employment.  
Sources: U.S. Bureau of Labor Statistics and Statistics Canada (Labour Force Survey).

Other industrialized countries have also seen declines in manufacturing-sector shares of total employment. Chart 3.4 shows relative manufacturing employment for a selection of Organisation for Economic Co-operation and Development (OECD) countries. Ontario's share of manufacturing employment declined from slightly above the OECD average in 2006, before the onset of the recession, to slightly below the average in 2012.

**Manufacturing's Share of Total Employment,  
Selected OECD Countries and Ontario**

CHART 3.4



Sources: OECD and Statistics Canada, Labour Force Survey.

Ontario business and labour will face continuing pressure to adjust and compete.

New and potentially disruptive innovations — such as 3D printing and advanced robotics — could bring about more changes to Ontario's economy. They also provide opportunities for Ontario companies and could help sustain future economic growth in Ontario.

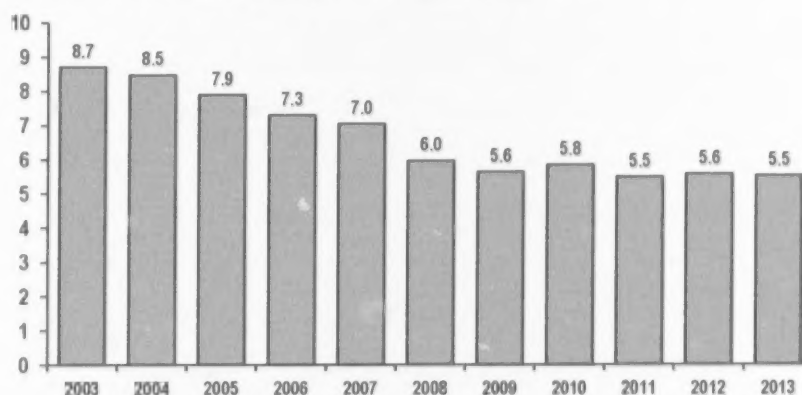
Manufacturers are adapting to new competitive realities by focusing on products and processes that can make them globally competitive. At the same time, many Ontario service-sector companies are finding ways to compete globally. Both goods- and services-producing industries will continue to play important roles in Ontario's diverse economy in the future.

Ontario exporters have faced challenges in recent years in their most important market, the United States, which was the destination for 78 per cent of the province's merchandise exports in 2013. The high Canadian dollar as well as increasing competition from emerging markets, especially China, led to a significant decline in Ontario's share of all goods imported into the United States (see Chart 3.5). The level of Ontario exports to the United States declined from \$153 billion in 2003 to \$129 billion in 2013.

### Ontario's Exporters Losing Market Share in the United States

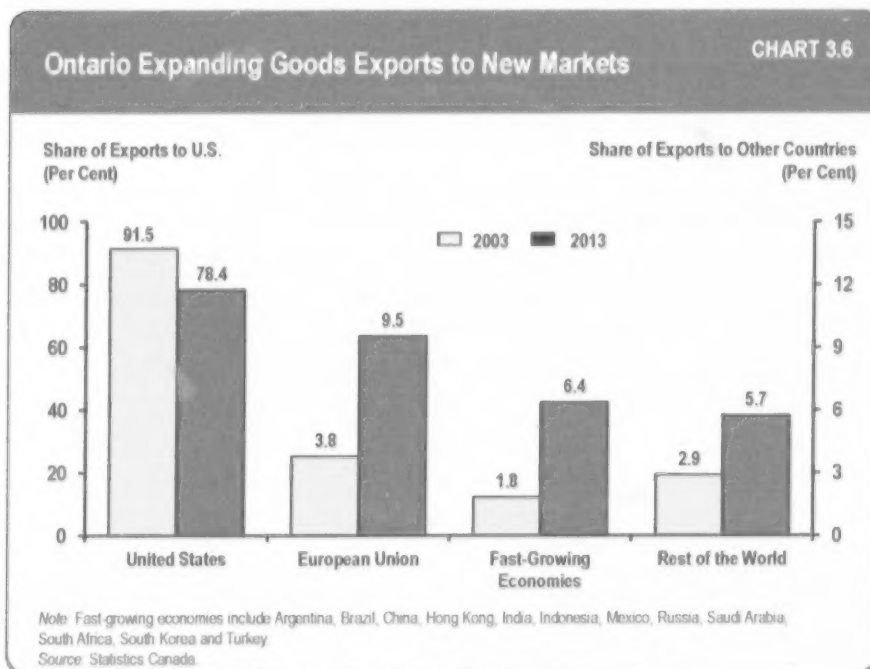
CHART 3.5

Per Cent of U.S. Merchandise Imports Sourced from Ontario



Source: Statistics Canada.

Ontario companies have been adapting to these challenges by diversifying their markets, reducing their reliance on the United States. As Chart 3.6 shows, the share of Ontario's goods exports to both traditional markets, like the European Union, as well as fast-growing markets such as China and India, increased between 2003 and 2013.



## Adaptation and Transformation

Ontario is responding to new economic realities and showing the flexibility to adapt and transform. In a fast-changing world, this dynamism must be sustained. Further improvement of Ontario's productivity, the competitiveness of its firms and their ability to succeed in promising new markets, and the flexibility and skills of Ontario's workforce are all important.

As noted in Chapter 5: *Productivity in Ontario: Challenges and Opportunities*, Ontario has fallen behind in improving productivity in the business sector compared to the United States. Increasing productivity performance will help sustain high incomes and allow the standard of living to rise in the future. This is especially important as the population ages, reducing labour force growth and putting greater pressure on the health care system.

There are ample opportunities for progress and improvement. For example, a recent Deloitte study showed that many Canadian companies do not recognize that they are underinvesting in productivity-enhancing activities, such as research and development (R&D), and they may be missing opportunities for profitable growth.<sup>2</sup>

Over the next 20 years, global demand from emerging market economies will grow rapidly and Ontario can benefit from it. Led by the Asia Pacific region, spending by the global middle class is expected to more than double to \$56 trillion US by 2030. Canada is also currently pursuing new trade agreements that will help open and expand market opportunities abroad, including in South America, India, Japan and South Korea.

Major developed economies such as the United States and Europe will also grow and increase demand for sophisticated products and services by businesses and consumers. Ontario will continue to be an attractive location for advanced manufacturing, which will increase its exports of equipment and services, and expand and broaden its global supply chain linkages. As well, Ontario will remain a gateway to a major North American consumer market of over 139 million people currently within a day's drive.

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<sup>2</sup> Deloitte LLP, "The Future of Productivity: A Wake-Up Call for Canadian Companies," (2013).

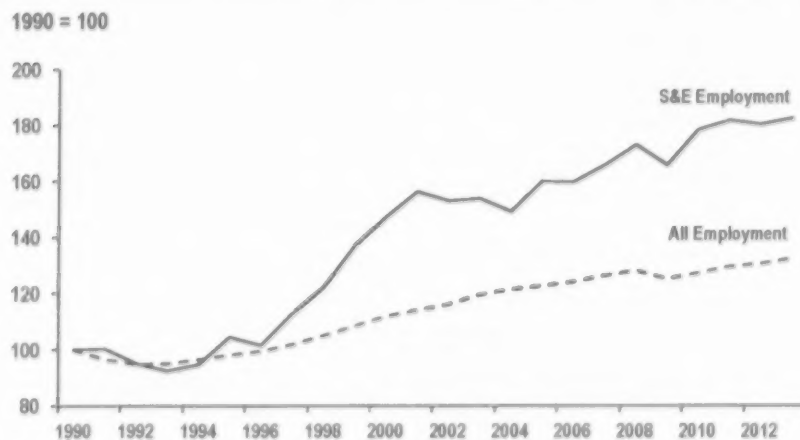


### Knowledge-based Industries

Knowledge-based industries are an increasingly important part of the provincial economy. As defined by the OECD, these industries are relatively intensive in their inputs of R&D, advanced technology and highly skilled human capital. Knowledge-based industries account for about 30 per cent of provincial GDP and employment in Ontario, and are more export-oriented than other industries. Knowledge-based industries are found in both the advanced manufacturing (e.g., aerospace) and services (e.g., financial services) sectors.

Ontario's Science and Engineering (S&E) Workforce

CHART 3.7



Source: Statistics Canada.

A positive trend within Ontario's economy has been the growth of its science-based workforce. Scientists and engineers (S&E) are crucial for a knowledge-based economy, as they are strongly linked to innovative outcomes such as the introduction of new goods and services. The S&E workforce includes professional and technical occupations in the physical and life sciences, mathematics, engineering, architecture, and information technology. Ontario's S&E workforce, over 530,000 workers in 2013, has grown faster overall than all employment since 1997, and accounted for 40 per cent of all Canadian S&E workers in 2013.

## **Transition in Business Services and Manufacturing**

As Ontario's economy transforms, other sectors such as financial services have become increasingly important.

### ***Business and Financial Services Sector***

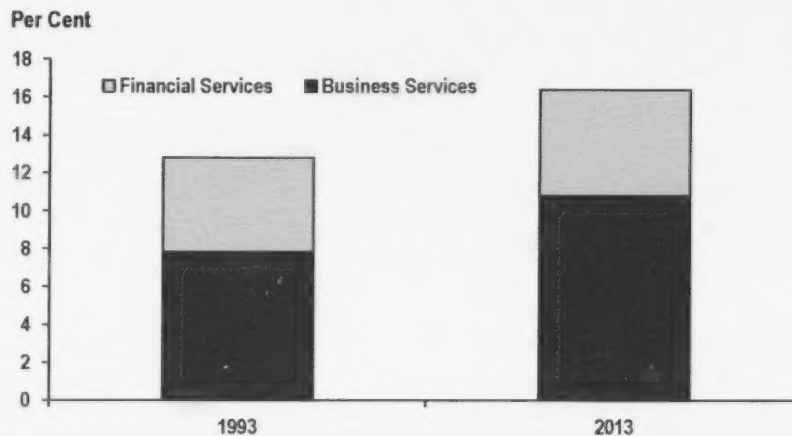
The business and financial services sector is a good example of how Ontario is adapting and transforming. Led by the Greater Toronto and Hamilton Area, Ontario continues to thrive as the leading business and financial services head-office centre of Canada. Business and financial services are also the province's largest internationally traded industries, based on employment, interconnecting with and serving other global cities and markets both domestically and globally. This sector's share of total employment increased from 12.8 per cent in 1993 to 16.4 per cent in 2013.

The share of employment in business services, which include professional services, such as architecture and engineering, and a wide range of other support services, grew from 7.8 per cent in 1993 to 10.8 per cent in 2013. The future growth of business services will continue to be driven by the shift to skills- and knowledge-based services, while globalization and remote digital distribution are broadening worldwide market opportunities.

The financial services sector, which includes banking, insurance and securities activities, is a major engine of growth for the Ontario economy. It directly accounts for 8.9 per cent of GDP and 5.6 per cent of employment. Its share of economy-wide output is almost twice as large as its share of jobs, indicating its above-average productivity.

### Financial and Business Services: Share of Ontario Employment

CHART 3.8



Note: Business services include professional, scientific, technical and administrative services, and exclude computer software and design services

Source: Statistics Canada, Labour Force Survey

From 1997 to 2012, real output in the financial services sector grew faster than the economy as a whole. Output growth will continue to be led by growing domestic and foreign demand, as well as innovative new technologies such as electronic and mobile payments. Demographic changes will also contribute to greater demand for financial services related to savings and retirement, and a shift from lending and borrowing to more advisory services.

Canada maintains its strong international reputation as the home of the soundest banks in the world, for the sixth consecutive year, according to the World Economic Forum. And Toronto continues to be the financial capital of Canada and a major global financial centre, home to many leading banks, securities dealers, insurers and pension funds. As a global financial centre, Toronto ranks strongly as number nine in the world on *The Banker* magazine ranking and fourteenth on the U.K.-based Global Financial Centres Index.

Canadian exports of financial services have more than doubled over the past 10 years, the best growth performance of any sector over this period.<sup>3</sup> Financial services foreign direct investment (FDI) to other countries is currently the largest sector for outward FDI in Canada, with 40 per cent of the total, followed by manufacturing and mining.

The government will continue to work with the financial services sector to maintain and build on its global reputation and international rankings, raising its prospects for competitiveness and growth.

A financial sector that is strong, resilient and efficient plays an important role in enabling the long-term growth of GDP and productivity. It not only channels savings for business investment, but also promotes the efficient allocation of capital and wealth as well as modern and well-functioning financial transactions — all contributing to productivity. Ontario's financial sector remains strong and stable, home to the soundest banks in the world and a stock market, the Toronto Stock Exchange, that is the seventh largest in the world based on market capitalization.

Ontario's financial markets are well regulated and foster safe, stable and attractive investment opportunities. The government remains committed to modernizing securities laws and the regulatory framework to ensure sound and efficient markets. Ontario has long been a leader in advocating for the creation of a common securities regulator in Canada, a key to the country's ability to sustain and grow its financial services industry. In 2013, Ontario, British Columbia and Canada announced an agreement in principle to establish a cooperative capital markets regulatory system, which is expected to be operational by July 1, 2015, and will better protect investors, support efficient capital markets and manage systemic risk.

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<sup>3</sup> K. Audet, M. Burt and G. Sutherland, "Ensuring the Future: Understanding the Importance of Toronto's Financial Services Sector," Conference Board of Canada, (November 2013).

## **Manufacturing**

Ontario is the manufacturing heartland of Canada, accounting for 45 per cent of the nation's manufacturing employment and 46 per cent of manufacturing GDP. As discussed, global trends have been reducing the relative size of manufacturing in advanced countries, including Canada.

Ontario is facing competitive challenges in some traditional labour- or energy-intensive industries. Some of its peer jurisdictions, such as the U.S. Great Lakes states, have also undergone significant restructuring in manufacturing, including cost-containment measures. A few have taken steps to weaken the bargaining power of organized labour, including through the introduction of "right to work" laws. Although anti-union laws have been in place in several U.S. states for many decades, they have not been considered a good fit for Ontario's society and are not a necessary condition for success in manufacturing.

Additionally, the emergence of shale gas production has helped to contain energy costs. Some of these jurisdictions are now seeing a resurgence in manufacturing activity.

Ontario's strong economic fundamentals will help maintain a resilient, productive and advanced manufacturing sector. New technologies, such as 3D printing and advanced robotics, hold the potential to accelerate changes in the structure of the manufacturing sector in the future.

Globalization continues to drive greater specialization in manufacturing, as businesses focus on the parts of the value chain of a product or service that they can produce most efficiently or they can add the most value to with better technologies and processes.

Ontario companies with innovative technologies and highly skilled workers will have an opportunity to increase their specialization in high value-added manufacturing activities to enhance their export potential. The Province's Going Global Trade Strategy can help companies increase and diversify their access to export markets, enabling greater integration into global value chains. Growing resource industries in Western Canada will also provide opportunities for Ontario firms, including in providing both goods and services to the supply chain for oil-sands production.

The government will also continue to ensure Ontario's business regulations are smart and impose the least burden on businesses, allowing them to achieve their goals.

### ***Auto Sector***

Ontario remains one of North America's premier auto manufacturing jurisdictions, despite the shift of vehicle production to lower-cost jurisdictions such as Mexico and the southern U.S. states. To sustain a strong base of auto assembly and parts production in the province, the government is continuing to work with major auto assemblers to help anchor substantial investments in Ontario. Stakeholders, including labour, are also working to address issues related to the industry's competitiveness in Ontario.

In addition to these investments in Ontario, the recent agreement in principle between Canada and the European Union for a Comprehensive Economic and Trade Agreement promises to provide access to new markets for Ontario's motor vehicles and parts producers through tariff-reduction measures.

### ***Information and Communications Technology (ICT)***

Information and communications technologies are key enabling or platform technologies. As such, they will continue to underpin the competitiveness and efficient operation of private- and public-sector industries across the economy, while serving growing consumer needs and leisure activities at home and abroad. The increasing reliance on ICT in many industries, and in industrialized as well as fast-growing emerging nations, will continue to drive the sector's growth over the coming decades.

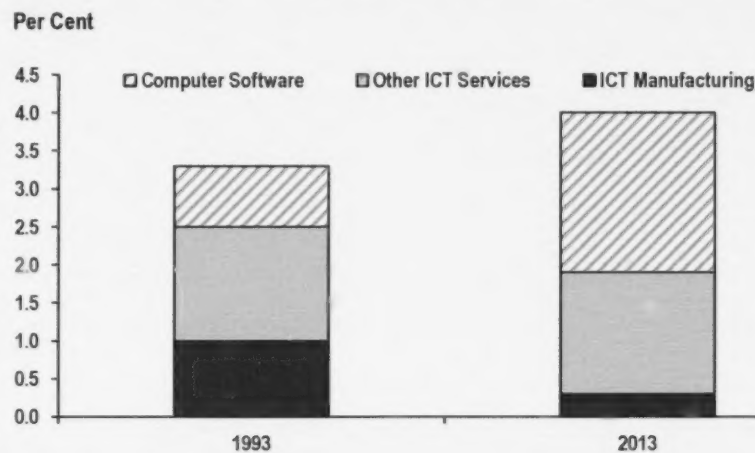
The ICT sector's share of total employment in Ontario increased from 3.3 per cent in 1993 to 4.0 per cent in 2013. This reflects continued innovation and the spread of new ICT technologies, including the digitization of a vast array of content and information enabled by mobile phones and other consumer and business devices. Computer software accounts for almost half of the sector's employment and will continue to grow in the future.



Ontario's growing ICT sector is underpinned by many competitive strengths, including a strong R&D base and skilled talent pool. This will help the sector continue to increase its share of total employment over the coming decades. The government supports the growth of Ontario's ICT sector through investments in skills, education and modern infrastructure. The Province also provides R&D and investment support through grants, tax credits and other funding programs.

**Information and Communications Technology (ICT):  
Share of Ontario Employment**

**CHART 3.9**



Source: Statistics Canada, Labour Force Survey.

### **Life Sciences**

Life sciences industries, which include pharmaceutical research and production, medical devices, and scientific and laboratory services, continue working to advance the frontier for research, products and services that help maintain and improve health and fight disease.

Life sciences industries account for around three per cent of Ontario business-sector employment and play an important role in the economy. The industries' employment grew significantly from 1993 to 2013.



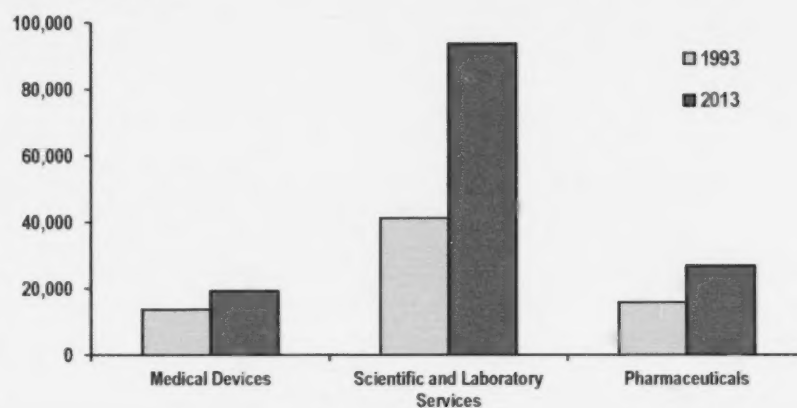
The scientific and laboratory services sector leads in employment growth. Employment in the sector increased by 127 per cent from 1993 to 2013; by 41 per cent in medical devices and equipment; and by 70 per cent in pharmaceutical production. Globally, the pharmaceutical sector is undergoing a structural change and consolidation of operations in the face of declining research productivity, rising cost-containment pressures and increased competition.

The Ontario government is helping build production and research capacity as well as valuable partnerships with other jurisdictions to create and promote high-value products and services in the province.

**Employment Growth in Ontario's Life Sciences Industries**

**CHART 3.10**

**Employment**



Sources: Statistics Canada (Labour Force Survey) and Ontario Ministry of Finance.

## **Resource-based Industries**

Although Ontario's resource-based industries contribute relatively less than in other provinces, they will remain important contributors to the economy and are especially important in Northern Ontario.

### ***Mining***

Ontario remains Canada's leading jurisdiction for mineral exploration and production as well as a major global player in mining finance. It ranks among the top 10 world producers of platinum, nickel and cobalt, and is a significant producer of gold, silver, copper and zinc. The province is also among a select group of jurisdictions that produces, processes and markets diamonds.

Ontario is a global centre for mining finance, with the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV) having more than half of the world's listed mining companies and a market capitalization of almost \$250 billion in 2013.

Continuing high resource prices are expected to help support significant growth in mineral exploration and mining development over the coming decades. The Ring of Fire area in Ontario's Far North is rich in mineral resources, with known chromite and nickel deposits worth up to \$50 billion. This will create enormous business and growth opportunities for local mining and supporting industries.

### ***Forestry***

A cornerstone of Ontario's northern economy, the forest sector has faced significant challenges in recent years, due to both structural changes in the demand for many forest products, such as newsprint, as well as the effects of the global recession and the weak U.S. housing market. However, higher demand for lumber from the recovering U.S. house construction market and strong global demand for pulp are helping support higher prices and creating significant opportunities for Ontario companies. There are additional opportunities in the production of higher value-added products such as rayon fibre made from wood pulp. Along with bio-energy, these emerging opportunities are expected to drive the sector's growth in coming years.

### ***Agriculture and Agri-food***

The agriculture sector provides the foundation for the economy of rural Ontario, while the food and beverage processing sector is one of Ontario's most dynamic manufacturing sectors.

Increasingly, the world wants the high-quality, diverse foods produced in Ontario, creating opportunities for greater international trade. Premier Kathleen Wynne has challenged the broader agri-food sector, including wholesale and retail food services, to double its exports and create 120,000 new jobs by 2020.

Domestic markets also present opportunities for growth. Increasing interest in local foods as well as changing demand for higher-quality, more specialized products provide new opportunities. Ontario's local food strategy, including the recently passed *Local Food Act*, will help increase access to, and awareness and sales of, Ontario-grown foods in the home market.

A stable and innovative farming sector is crucial for the future strength of the industry. Ontario business support for farmers, including the five-year Growing Forward 2 suite of agricultural support programs in association with the federal government, will continue to provide farmers with business risk management programs as well as programs to help improve productivity and innovation.

# CHAPTER 4: LONG-TERM FISCAL PROSPECTS

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## INTRODUCTION

This chapter outlines some of the impacts that Ontario's long-term demographic and economic growth outlook could have on future demand for public services. It discusses these impacts from three perspectives:

1. The importance of fiscal sustainability for long-term delivery and protection of public services;
2. Key drivers of demand for public services: health care, education and training, children's and social services, other government programs, and public infrastructure; and
3. The implications of fiscal sustainability from an intergovernmental perspective — in particular, the trend of federal fiscal sustainability being achieved at the expense of provinces and territories.

### 1. Importance of Fiscal Sustainability

Fiscal sustainability is the cornerstone of ensuring Ontarians continue to get the public services they need — now and in the future. Taking steps to secure long-term fiscal sustainability ensures the government will have the resources to pay for these public services and the flexibility to address unexpected new pressures that may arise.

As outlined in the *OECD Journal on Budgeting*, concerns about fiscal sustainability are not "driven by worries about the current fiscal position of countries," but rather are about the ability of governments to meet longer-term challenges related to demographics and economic growth.<sup>1</sup>

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<sup>1</sup> A. Schick, "Sustainable Budget Policy: Concepts and Approaches," *OECD Journal on Budgeting* 5, no. 1 (2005): 107–126.

While there is ongoing uncertainty about the global economy's recovery from the 2008–09 recession, the *2013 Budget* reiterated the Province's determination to balance the budget by 2017–18 in a fair and responsible way. Balancing the budget while making new strategic investments will spur growth, create jobs and strengthen public services for the long term.

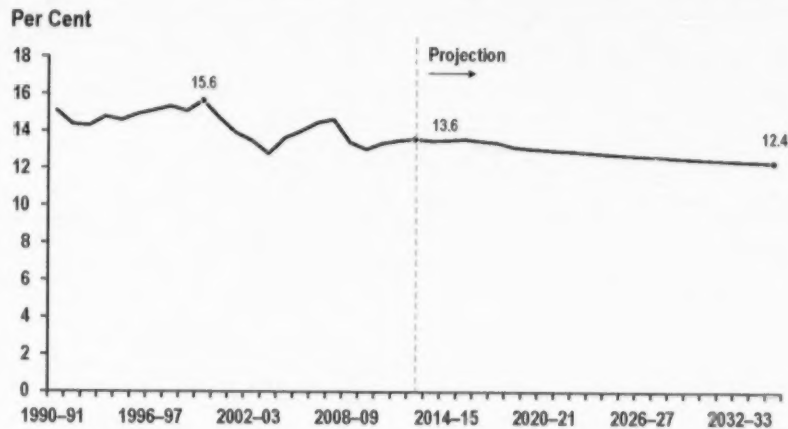
Ontario government revenues over the long term will largely be determined by the Province's economic path. Policy that helps put the economy on a stronger growth path would contribute to stronger revenue growth. This would help fund the delivery of public services while ensuring the Province remains on a sustainable fiscal path.

Ontario own-source revenue as a share of nominal gross domestic product (GDP) has trended lower from a high of 15.6 per cent in 1999–2000 to 13.6 per cent in 2012–13. Tax cuts have contributed to this decline.

A modest downward trend is expected to continue over the next 20 years, with the ratio of own-source revenues to nominal GDP edging lower to 12.4 per cent by the end of the long-term projection (see Chart 4.1). The moderate downward trend reflects slower growth in volume-based taxes and non-tax revenue sources.

**Own-Source Revenue to Nominal GDP,  
1990-91 to 2034-35**

CHART 4.1



*Notes:* Own-Source Revenue is defined as Total Revenues less Federal Transfers. Historical revenues have been restated for reporting changes such as reclassification of education property tax from expense to revenue and reclassification of refundable tax credits from revenue to expense.  
*Source:* Ontario Ministry of Finance.

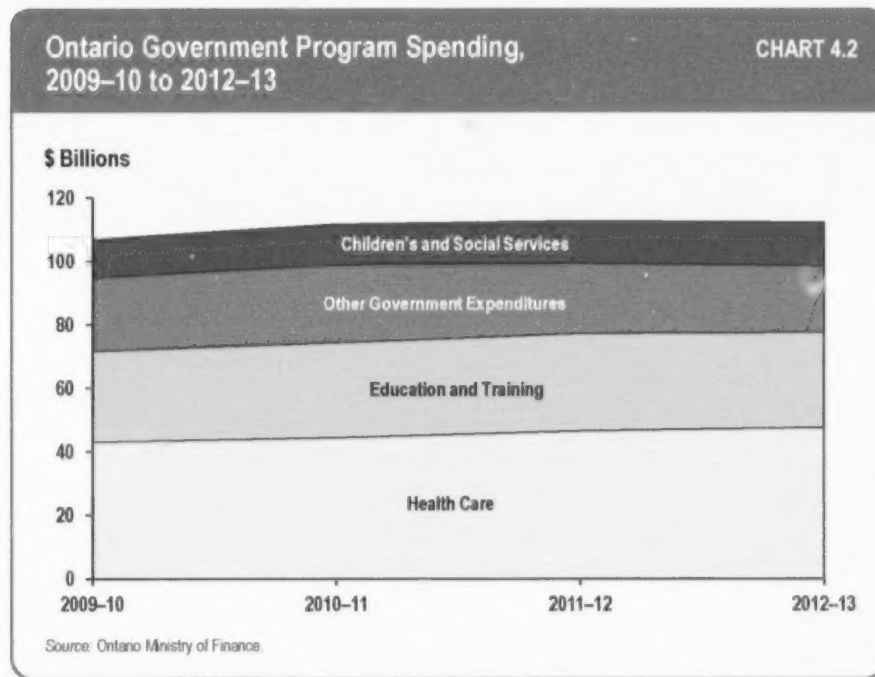
Fiscal sustainability also depends on governments' ability to control the level of debt and, consequently, interest on debt expense. As part of its plan to ensure long-term fiscal sustainability, Ontario is committed to reducing its net debt-to-GDP ratio to its pre-recession level of 27 per cent. This will help keep interest on debt at a manageable level and protect future generations from rising interest costs, which could otherwise crowd out spending on government priorities.

## 2. Demand for Public Services

Ontario's changing demographics, along with external and internal economic challenges, are expected to put pressure on the demand for public services.

The government is already taking responsible steps to improve the efficiency and effectiveness of public services to ensure they are on a long-term, sustainable footing. For example, it continues to move forward with the recommendations of the Commission on the Reform of Ontario's Public Services. The Commission provided valuable advice to the Province on how to deliver the most effective and efficient public services possible and achieve a sustainable fiscal balance.

Ontario currently has the lowest program spending per capita among Canadian provinces. The impact of long-term demographic and economic challenges on the demand for public services will vary by sector. Challenges specific to each sector, and the steps the government is taking now to ensure long-term sustainability, are outlined below.





## **Health Care**

The health sector provides Ontarians with programs and services that address their health care needs. Services primarily include emergency medical care; surgical, diagnostic and inpatient services in hospitals; physician and other practitioner services covered by the Ontario Health Insurance Plan (OHIP); seniors' prescription services through the Ontario Public Drug Programs; nursing and personal support services in long-term care homes; home care services; as well as programs to promote healthy living and prevent illness.

Health care is the Ontario government's single biggest expense, accounting for over 40 per cent of the Province's total program spending. Given the size of the sector, the outlook for cost drivers and opportunities to mitigate them are of particular interest.

### **Cost Drivers**

Specific factors that drive the demand for health services include demographics such as aging of the population and population growth, increases in the number of times the health care system is accessed (utilization growth), and inflation.

A key cost driver in health care costs is Ontario's aging population. Usage of the health care system rises significantly after age 65, with health care expenditures for seniors being about three times higher than the average for the overall population.

**Table 4.1 Per-Capita Provincial Government Health Spending, by Age Group, Ontario, 2011, Current Dollars**

| Age Group    | Spending Per Person (\$)¹ | Share of Population, 2011 Actual (Per Cent) | Share of Population, 2035 Projection (Per Cent) |
|--------------|---------------------------|---------------------------------------------|-------------------------------------------------|
| <1           | 10,224                    | 1.1                                         | 1.0                                             |
| 1-4          | 1,434                     | 4.4                                         | 4.1                                             |
| 5-14         | 1,169                     | 11.2                                        | 10.7                                            |
| 15-44        | 1,882                     | 40.8                                        | 36.5                                            |
| 45-64        | 3,234                     | 28.4                                        | 24.0                                            |
| <b>65+</b>   | <b>11,746</b>             | <b>14.2</b>                                 | <b>23.8</b>                                     |
| 65-74        | 7,567                     | 7.6                                         | 11.4                                            |
| 75-84        | 13,593                    | 4.7                                         | 8.4                                             |
| 85+          | 24,214                    | 1.9                                         | 4.0                                             |
| <b>Total</b> | <b>3,657</b>              | <b>100.0</b>                                | <b>100.0</b>                                    |

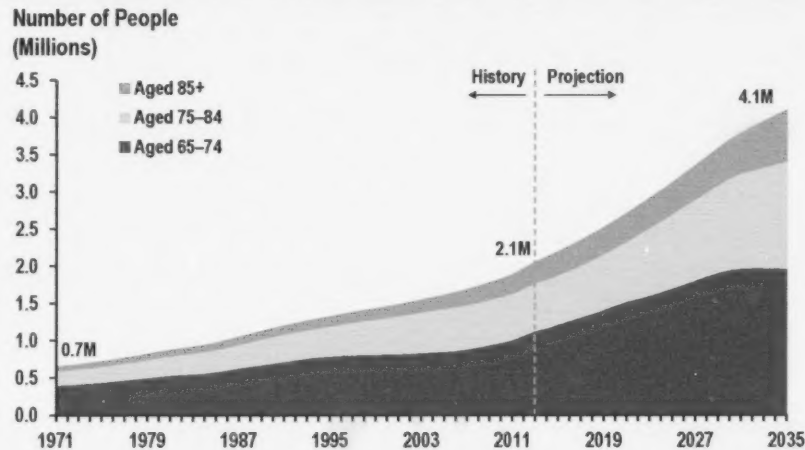
¹ Weighted average.

Sources: Canadian Institute for Health Information, Statistics Canada and Ontario Ministry of Finance population projections (Spring 2013).

In 2011, seniors accounted for 14.2 per cent of the province's overall population, with approximately 1.9 million Ontarians aged 65 years or older. The number of seniors living in Ontario is projected to nearly double to 4.1 million by 2035. At that time, the share of seniors in Ontario's population is projected to be 23.8 per cent, up notably from today.

Population Aged 65–74, 75–84 and 85+ in Ontario, 1971–2035

CHART 4.3



Sources: Statistics Canada estimates for 1971 to 2013, and Ontario Ministry of Finance projections (Spring 2013).

Increased utilization of health care services is also a cost driver of health spending. This is particularly the case for those with complex conditions who frequently require health services. These patients are among the five per cent of patients that account for two-thirds of health care costs.<sup>2</sup> They are most often patients with multiple, complex conditions and multiple chronic diseases (e.g., diabetes, heart disease, chronic respiratory illness, cancer); and those with mental illness or addictions.

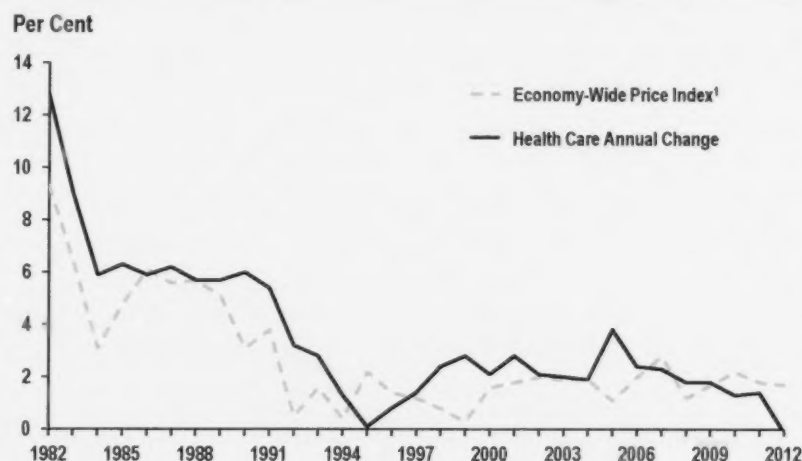
Inflation is also a key driver of health care expenditure growth, with price changes historically being higher in health care than in the economy as a whole. Costs for services are impacted by inflation primarily through compensation growth as well as the costs associated with new drugs, new high technology procedures and medical equipment.<sup>3</sup>

<sup>2</sup> W. Wodchis, "High Cost Users — Driving Value with a Patient-Centered Health System," Health System Performance Research Network, (2013).

<sup>3</sup> Canadian Institute for Health Information, "Health Care Cost Drivers," (2011).

Price Increases in Health Care — Ontario

CHART 4.4



<sup>1</sup> GDP implicit price index.  
Source: Statistics Canada.

### Mitigating Cost Pressures

While there are many cost drivers exerting pressure on health spending, there are also opportunities to help control costs to support a sustainable health care system while maintaining the quality of health care in Ontario. These opportunities include promoting healthy lifestyles, increasing patient knowledge, making system design changes, expanding the scope of practice for health care professionals, supporting evidence-based funding decisions and taking advantage of technological improvements.

Programs and services to promote healthy lifestyles and to prevent and manage chronic disease help mitigate the demand for health care services. In addition, individuals taking steps such as healthy eating and regular physical activity, and public education can help prevent illness and avoid costly medical care in the future. These measures can also help reduce the level of obesity, which is associated with many chronic diseases.

People's knowledge can also play a role in lowering health care costs. For instance, improved knowledge about the effects of smoking has led to lower smoking rates, which improves people's health and helps avoid costs. Public knowledge of other options for receiving care outside of hospitals can also help reduce costs in the system. In many cases, a person's first instinct or choice is to go to a hospital's emergency room (ER) for treatment. This may be due to a lack of knowledge of alternative options for receiving the most appropriate care.

In 2010–11, over 271,000 ER visits were made to Ontario hospitals that could have been made to alternative primary care settings. These trips to the ER are avoidable and these patients could have received optimal care at a lower cost outside the hospital.<sup>4</sup> Giving patients access to information and education about other health care services in the community can help alleviate the strain on the more costly emergency departments in hospitals and move care into the community.

System design changes such as better integration of care around the patient can help reduce the reliance on acute care in a hospital, get the primary care provider more involved and bring more care into the community setting. A C.D. Howe Institute report noted that the greater the attachments to one's primary care group, the lower the overall costs to the health system.<sup>5</sup>

Another example where better integration of care can improve patient outcomes as well as decrease costs relates to alternate level of care (ALC) patients. Alternate level of care patients are broadly defined as patients who occupy a bed in a hospital although they do not require the intensity of resources/services provided there. One study estimated that every 10 per cent shift of ALC patients from acute care to home care results in about \$35 million in savings.<sup>6</sup>

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<sup>4</sup> Ministry of Health and Long-Term Care, "Ontario's Action Plan for Health Care: Better Patient Care through Better Value from Our Health Care Dollars," (2012).

<sup>5</sup> D. Drummond, "Therapy or Surgery? A Prescription for Canada's Health System," C.D. Howe Institute, (2011).

<sup>6</sup> Ontario Association of Community Care Access Centres, Ontario Federation of Community Mental Health and Addiction Programs, and Ontario Hospital Association, "Ideas and Opportunities for Bending the Health Care Cost Curve: Advice for the Government of Ontario," (April 2010).

Another opportunity to help control costs is ensuring that health care professionals such as pharmacists, nurse practitioners and personal support workers are able to use their full scope of practice. This not only increases patients' access to care, but can also reduce costs in the health care system by shifting some care to lower-cost service providers.<sup>7</sup>

Evidence-based care supports better use of health care resources by focusing on delivery of care that is known to be effective. Decisions to fund certain tests and procedures should be based on evidence that shows appropriateness of care, cost effectiveness and improvements in patient outcomes. Some of these evidence-based changes were key elements of the 2012 Physician Services Agreement with doctors in Ontario. As well, health quality councils have been established in Ontario to research and document practices, procedures and drugs that are effective and provide the best value per dollar of health care funding.<sup>8</sup>

For example, in June 2010, the Ontario Health Technology Advisory Committee (OHTAC) found there was insufficient clinical evidence to support the funding of vitamin D testing in low-risk individuals. In December 2010, the government restricted the routine use of vitamin D testing for otherwise healthy people in Ontario. In March 2010, OHTAC also issued guidelines for screening women at high risk of breast cancer and recommended that they be part of an organized screening program that provides coordination and follow-up. In July 2011, the Ontario Breast Screening Program was expanded by creating High Risk Screening Centres that provide referrals for genetic assessment and testing, and offer breast MRI, mammography and diagnostic services for women aged 30 to 69 who are at high risk for breast cancer.

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<sup>7</sup> Commission on the Reform of Ontario's Public Services, "Public Services for Ontarians: A Path to Sustainability and Excellence," (2012).

<sup>8</sup> Drummond (2011).



Technological improvements are another area that can help change the way that health care is delivered and thus mitigate the growing cost of health care procedures. Cataract surgery is an example of the benefits of such improvements. The procedure was traditionally completed in hospitals. Through technological advances, cataract surgeries can now be performed in clinics in the community, improving access to service and patient experience, and lowering costs while maintaining high quality care.<sup>9</sup>

A number of other procedures and processes have also been moving out of the hospital setting and into more cost-effective community clinics including Toronto's University Health Network (UHN)/General Electric Pathology project, Sunnybrook Health Sciences Centre's Nurse Practitioner Colonoscopy service, and the Shouldice Hospital for hernia repair in Toronto.<sup>10</sup>

## **Education and Training**

### ***Demographics Drive Elementary and Secondary School Enrolment***

The education sector includes programs and services that support elementary and secondary education. The government provides funds to each of Ontario's district school boards using a funding formula based on student enrolment and local factors such as the demographic and geographic profile of individual boards.

The number of children enrolled in schools is the most significant cost driver of education in Ontario, and regionally there are significant variations in children's population growth. While the number of students entering the system is a key cost driver, policy decisions, such as average class sizes, or capital investments in new or existing facilities, can also drive costs.

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<sup>9</sup> W. Falk et al., "Fiscal Sustainability and the Transformation of Canada's Healthcare System — A Shifting Gears Report," Mowat Centre and the School of Public Policy and Governance at the University of Toronto (2011).

<sup>10</sup> Ibid.



Enrolment in Ontario elementary and secondary schools is determined primarily by the number of children aged 4 to 17. The number of children in this age group has been declining since 2004 as the large cohorts born in the late 1980s and early 1990s moved out of this age group. From 2014 to 2035, the total number of children in Ontario is expected to rise on average by about 0.9 per cent annually, which is slightly below the overall population growth rate of 1.1 per cent. Further, this group is projected to grow by 21.8 per cent from 2.1 million in 2014 to 2.6 million in 2035 — significantly greater than the 6.5 per cent growth over the previous 21 years.

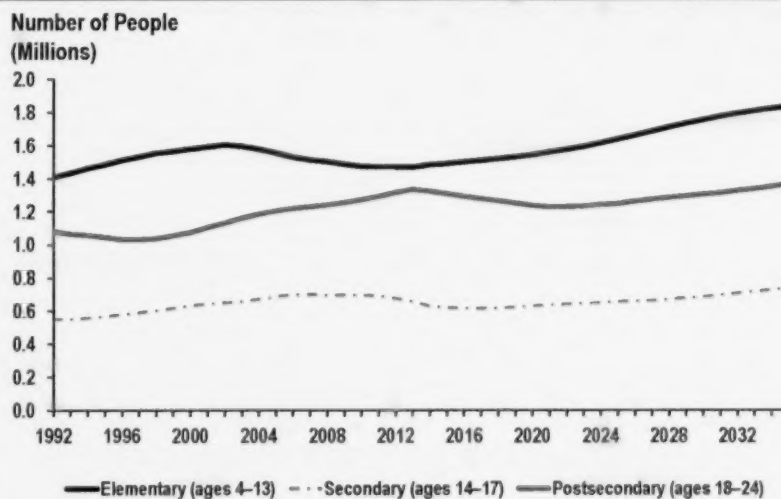
From 2014 to 2035, the number of elementary school-age children (ages 4 to 13) is projected to rise on average by about 1.0 per cent annually. However, the number of secondary school-age children (ages 14 to 17) is projected to rise on average by only 0.8 per cent annually — a pace below the overall population growth rate of 1.1 per cent. It is expected that the secondary school-age group will decline by about 2.1 per cent from 2014 to 2017 before resuming growth to reach 739,000 by 2035, higher than today's level of 658,000.

In 2010–11, the Province introduced full-day kindergarten in some Ontario schools. Investments in the program have increased as the program is phased in across Ontario. The program is expected to be fully implemented by September 2014.

From 2014 to 2035, the number of children eligible (ages 4 and 5) for full-day kindergarten is expected to rise on average by about 0.9 per cent annually — a pace slightly below the overall population growth rate of 1.1 per cent. Further, this age group is projected to grow by 21.7 per cent from approximately 293,000 in 2014 to 357,000 in 2035.

Elementary, Secondary and Postsecondary Source  
Population, 1992 to 2035 — Ontario

CHART 4.5



Sources: Statistics Canada estimates for 1971 to 2013, and Ontario Ministry of Finance projections (Spring 2013).

### ***Continued Demand for Postsecondary Education and Training***

Demand for postsecondary education to meet the needs of a global economy and technological innovation and changes in demographics will continue to drive student enrolment in Ontario. The government continues to work towards meeting its goal of 70 per cent of the Ontario population aged 25 to 64 having a postsecondary education credential by 2020, recognizing that new jobs are increasingly requiring some form of postsecondary education. In 2013, approximately 66 per cent of this age group had a certificate, diploma or degree, up from 56 per cent in 2002.

Changing demographics, particularly in the postsecondary age group (ages 18 to 24), is also a key driver for demand for postsecondary education. Ontario's population in this age group is projected to decline by approximately 85,100, or 6.4 per cent, between 2014 and 2020. However, beyond 2020, the population in that same age group is expected to increase by 137,700, or 11.2 per cent, by 2035. In the near term, enrolment is projected to grow modestly, driven by higher rates of postsecondary education participation, before a return to more rapid enrolment growth after 2020.

Population growth is expected to continue being concentrated in large urban areas. Some of the regions and communities where strong long-term growth is anticipated are currently insufficiently served by local campuses. The government is supporting capacity expansion of campuses to meet student needs in these areas.

Ontario has made significant investments in the postsecondary education sector; between 2002–03 and 2012–13, annual funding increased by 80 per cent. Over that period, this funding helped support an enrolment increase of more than 160,000 students at Ontario colleges and universities.

In addition, investments in student financial assistance have allowed more than double the number of students to qualify for financial aid. In 2012–13, more than 370,000 students received loans and grants through the Ontario Student Assistance Program (OSAP) and the 30% Off Ontario Tuition grant, an increase of 150 per cent since 2002–03.

Ontario is building a postsecondary education system that is innovative and student-centred, with critical thinking, problem-solving, collaboration and entrepreneurship at the centre of learning. The government is working to ensure that transitions are seamless — whether they are from high school, between educational institutions, or between school and work. For example, the government is supporting partnerships between postsecondary institutions and industry. Projects such as the relocation of Centennial College's aerospace training programs to Downsview Park in Toronto and a permanent Industry Innovation Centre at Niagara College will help to ensure hands-on learning and training are available to students while also supporting the next generation of manufacturing in the province.

Initiatives are also underway to provide all students with access to the highest-quality postsecondary education in their communities, and to teaching and learning modes that are interactive and engaging.

Evolving demands of employers and rapid technological advancement suggest that there will be ongoing demand for employment and training services. This includes facilitating job matching, enhancing adaptability of workers to technological changes, and ensuring that the skilled workers that growing industries need are available. The government invests more than \$1 billion per year in Employment Ontario, which helps Ontarians access a wide range of employment and training services.

Ontario is moving forward with the modernization and government-wide integration of employment and training programs with Employment Ontario. This will ensure simplified and seamless access to programs and services for individuals and employers, and better serve Ontario's most vulnerable populations, such as social assistance recipients, people with disabilities, Aboriginal people and at-risk youth.

Recent government initiatives targeted to increasing labour market attachment include significant investment in the Ontario Youth Jobs Strategy to provide young people with the opportunity to gain a foothold in the job market; reforms to social assistance that will enhance incentives for labour market attachment; and raising the minimum wage to \$11 per hour and proposing legislation to index it to inflation to help ensure that workers receive a decent wage and strengthen their attachment to the job market.

### ***Mitigating Cost Pressures***

Changes in labour market demands and in the economy are difficult to predict, but continued investments in the postsecondary education and training sector could relieve future cost pressures on the system while better preparing Ontario students and young people to withstand evolving challenges. These investments position Ontario for increased productivity and economic growth. Ongoing government collaboration with colleges and universities is helping students remain competitive and find jobs. Meanwhile, student support programs and changes to tuition policy are making postsecondary education more affordable for students. Additionally, government supports for youth will facilitate their smooth transition from education to employment.

## **Children's and Social Services**

Children's and social services sector programs support people with disabilities, people in temporary financial need, low-income families and children and youth.

### ***Scope of Programs***

Ontario has two social assistance programs to help provide last-resort financial and employment assistance to eligible Ontarians. Ontario Works provides temporary financial and employment assistance to people in financial need. The Ontario Disability Support Program helps people with disabilities who are in financial need pay for living expenses, like food and housing. The program also provides employment supports and helps people with disabilities, who can and want to work, prepare for and find a job. Both social assistance programs provide all recipients with prescription drug coverage through the Ontario Drug Benefit. Currently, about 455,000 people receive benefits through Ontario Works and 434,000 people receive benefits through the Ontario Disability Support Program.

Ontario also provides support to people with developmental disabilities and their families. Developmental disabilities are lifelong conditions that affect a person's intellectual, social, behavioural and/or physical development. The services available in Ontario are delivered through approximately 370 developmental services agencies. The services allow people with developmental disabilities to live, work and participate in a wide range of activities in their communities.

The government also delivers and funds programs and services for children and youth with special needs. It is estimated that in Ontario as many as 235,000 children and youth have special needs. Many of these children and youth will require lifelong services to support their inclusion in their communities. Funding is provided to over 500 transfer payment agencies to deliver an array of programs including autism services, supports for children and youth with developmental disabilities, help for children and youth with mental health problems and the delivery of rehabilitation services. Families can also get support through respite services to help them with the day-to-day care of children with special needs, as well as funding for special services in or outside the family home.



Child protection services are delivered through 46 children's aid societies that help children and youth who have been, or are at risk of being, abused or neglected grow up in safer, more stable, caring environments. It is estimated that, at any given time in Ontario, 17,000 children and youth are in the care of children's aid societies, including approximately 7,000 Crown wards.

The Ontario Child Benefit provides support to about one million children in more than 500,000 families. As of 2011, the Ontario Child Benefit has contributed to lifting about 47,000 children out of poverty. The increases in the Ontario Child Benefit maximum annual benefit to \$1,210 in July 2013 and \$1,310 in July 2014 will together extend the benefit to an additional 90,000 children. The Ontario Child Benefit is financial support that low- and moderate-income families — whether they are working or not — may receive to help provide for their children.

Mental health services for children and youth are delivered through over 260 child and youth mental health and community service agencies and 17 hospital-based outpatient programs.

### ***Demand for Programs***

Generally, Ontario Works caseloads reflect changes in labour market conditions. Demand for Ontario Works increases during economic downturns as people who become unemployed require financial supports and other services. Caseloads for Ontario Works have grown following the global economic downturn that started in 2008–09. As Ontario recovers from the global recession, the cyclical component of demand for these services is expected to moderate.

Unemployment, however, is not the only factor to influence Ontario Works caseloads. People with multiple barriers to employment are likely to require social assistance for prolonged or repeated periods. Barriers to employment such as lack of basic work skills and experience, and the lack of stable housing or means of transportation can limit one's capacity to work regularly.

Ontario Disability Support Program caseload growth is not directly linked to the economy. Most clients in the program cannot work due to substantial mental or physical disabilities. Since 2006–07, the program's caseload has been growing by about five per cent per year, and will likely continue to increase by an average of four per cent per year in the future. Ontario Disability Support Program caseload growth is being driven by an increase in the diagnosis of mental illness and a rise in the incidence of disability resulting from an aging population.

There has been an increasing demand for services for children with special needs. The reported prevalence of certain specific disorders, such as autism, has increased over time. Children and youth with special needs face many challenges. They are less likely to graduate from high school, complete university, and be employed, and more likely to live in poverty and be involved with the child welfare and youth justice systems.

Approximately 62,000 adults in Ontario have a developmental disability. Demand for services supporting people with developmental disabilities is driven by a number of demographic factors, including general population growth; medical advances that enable individuals with developmental disabilities to live longer; and caregivers, predominantly aging parents, who are no longer able to care for their adult children with developmental disabilities at home. Also, each year, approximately 1,000 children who turn 18 are likely to apply for adult developmental services.



### **Spending Growth**

Spending growth in the sector is driven by investments in the Ontario Child Benefit and ongoing social assistance program growth. Since 2009–10, social sector expenditure has been growing by an average of 4.6 per cent annually. Social assistance growth is driven by a number of factors, including the fact that Ontario Disability Support Program cases are an increasing share of overall social assistance caseloads; growth in the uptake of special benefits such as prescription drugs and the special diet allowance; provincial upload of municipal social assistance costs; and increases in social assistance rates.

### **Mitigating Cost Pressures**

Social program costs are mitigated by efforts to increase accountability in funding arrangements, enhance service integration, implement efficiencies in service delivery and reforms aimed at helping people move into employment, and improve health status.

Social program investments also contribute to economic growth, as many of the supports provided are used to purchase basic household goods and services that are usually purchased locally. Many government benefits are paid directly to individuals and families. For example, the Ontario Child Benefit, an income-tested, non-taxable payment, is provided to low- to moderate-income families to help with the cost of raising children under age 18. The Ontario Child Benefit has played a role in lowering the child poverty rate in Ontario and in reducing the financial barriers to entering the labour force.

Recognizing the need to provide even more opportunities for Ontario's youth, in the *2013 Budget*, the government announced a comprehensive Youth Jobs Strategy and an investment of \$295 million over two years to support initiatives that promote employment opportunities, entrepreneurship and innovation for youth in Ontario.

Benefits are also being transformed to increase opportunities for everyone to participate in the workforce. As announced in the *2013 Budget*, Ontario Works and Ontario Disability Support Program recipients will be able to keep the first \$200 of employment earnings each month before their social assistance benefits are reduced. This change will make it easier for those recipients who face multiple barriers to employment to enter the labour force.

Benefits are also being transformed to help reduce future costs. For example, Healthy Smiles Ontario helps ensure that children from low-income families, who have no access to dental coverage, receive preventive and basic treatment dental services at no cost. These services help prevent cavities and other dental problems that can contribute to diseases later in life.

### **Recent Changes**

A Poverty Reduction Strategy was announced in 2008 and through increases in key supports, such as the Ontario Child Benefit, social assistance and minimum wage, families have more income to meet their basic needs. As a result, the actual child poverty rate decreased in Ontario from 15.2 per cent in 2008 to 13.6 per cent in 2011.

To build on the Province's commitment to lift children out of poverty, the government increased the maximum annual per-child Ontario Child Benefit from \$1,100 to \$1,210 in July 2013, and will further increase it to \$1,310 in July 2014.

Ontario is taking steps to help low-income workers by raising the minimum wage to \$11 per hour effective June 1, 2014. As well, the government has proposed that future adjustments to the minimum wage be tied to Ontario's Consumer Price Index (CPI), beginning in 2015. This would bring predictability and transparency to the setting of the minimum wage.

The 2013 *Budget* announced initial steps to implement key recommendations from the 2012 report by the Commission for the Review of Social Assistance in Ontario to help social assistance recipients move into jobs, keep more of what they earn, and improve their financial security.

## Other Government Programs

The government invests in economic development, justice and other government programs to encourage growth and productivity, keep communities safe, support environmental stewardship and sustainable development, and ensure government services are delivered efficiently and responsively.

Some sector programs are demand-driven and deliver more services during times of economic downturn, while others are mandated by statutory or regulatory requirements. For example, Ministry of Labour enforcement staff protect vulnerable workers by enforcing the *Occupational Health and Safety Act* and the *Employment Standards Act, 2000*. In December 2013, Ontario introduced Bill 146 that would, if passed, provide more protection by extending coverage to co-op students, trainees and unpaid learners.

Over the long term, demographic changes such as population increases, as well as the performance of the Ontario economy, are expected to continue being key drivers of demand for government programs.

## Public Infrastructure

Modern and reliable public infrastructure offers long-term benefits to Ontario's economy and helps increase private-sector productivity and competitiveness. Infrastructure also enhances Ontarians' quality of life by providing more transportation choices and creating more livable communities.

While public infrastructure offers long-term benefits, it is important to consider its impact on government finances. Investments in capital assets contribute to the government's borrowing needs, potentially leading to higher provincial debt over time. Once completed, these capital investments affect the Province's surplus/deficit position for decades through related interest on debt, amortization and ongoing maintenance costs.

That said, steady investment in infrastructure renewal is needed to ensure effective functioning of the economy. These types of investments help achieve better value, reduce costs, maintain service and mitigate risks. For example, well-maintained roads, bridges and other structures last longer, saving taxpayer dollars in the long run. They also can help make travel safer, shorten commute times, and help drivers reduce vehicle-repair costs.

The Province has significantly increased investments in public infrastructure over the past decade. Because of this renewed investment, almost 40 per cent of the value of the Province's diverse infrastructure portfolio (with a replacement value estimated at over \$200 billion) comes from assets built during this time. Ongoing investment in renewal and rehabilitation helps keep these assets in good condition. The remainder of the Province's portfolio comes from assets built during past decades, and as these assets reach the end of their lifecycles, ongoing investments are also needed to renew them.

Beyond renewing the Province's existing infrastructure, further investments will be required to meet future demographic and economic needs. Expansion of public transit, highway improvements, and better access to health care and postsecondary education are expected to be important components of government expenditures over the long term.

Infrastructure decisions also need to take into account a number of far-reaching trends. For example, infrastructure investments across Ontario's public sector are increasingly directed at technology (e.g., more diagnostic equipment in hospitals). While this shift is helping to improve service and reduce operating costs, it puts pressure on government spending because technological infrastructure generally needs replacing or upgrading more often than traditional "brick and mortar" infrastructure.

Other factors such as climate change could also put more pressure on future infrastructure investment (e.g., damage resulting from extreme weather). A recent report by the Canadian Chamber of Commerce suggests that climate change may negatively impact the lifecycle of public infrastructure, making timely maintenance and rehabilitation an even more pressing need.<sup>11</sup> New infrastructure will also need to be engineered to withstand future environmental factors.

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<sup>11</sup> Canadian Chamber of Commerce, "The Foundations of a Competitive Canada: The Need for Strategic Infrastructure Investment," (December 2013).

In a time of fiscal restraint, the Province continues to explore innovative approaches to address long-term infrastructure needs and make best use of public dollars. The government is making strategic infrastructure investments consistent with *Building Together*, the Province's long-term infrastructure plan, that:

- Focus on increasing productivity and competitiveness;
- Align public services with demographic change; and
- Ensure good stewardship, by improving asset management practices and collaborating with the private sector and other governments.

Ontario has also taken additional steps to improve long-term infrastructure planning by introducing Bill 141, the proposed Infrastructure for Jobs and Prosperity Act, the Province's first long-term infrastructure planning legislation. If passed, the proposed legislation would help further align infrastructure planning with long-term trends to maximize the value of provincial infrastructure investments and support a stronger economy.

### **3. Federal-Provincial Fiscal Sustainability**

Changes to economic and demographic factors will have significant impacts on the demand for and fiscal sustainability of the public services the Province provides over the long term. Compounding these demand-driven challenges, Ontario also faces fiscal challenges as a result of often-unforeseen changes to federal activity in areas of joint responsibility, funding levels or other requirements that may be unilaterally imposed on provinces and territories by the federal government. Federal changes can negatively impact Ontario by creating pressures on expenditures, as well as the revenues Ontario relies on to fund its provision of public services.

Recently, the federal government has repeatedly taken actions, such as reducing funding support, that provide for its own fiscal sustainability at the expense of provinces and territories. For example, one of the largest areas of provincial expenditure is health care. In this sector alone, the federal-provincial cost-sharing arrangements have evolved over time from one in which eligible expenditures were roughly cost-shared 50–50 between the federal and provincial/territorial governments, to one in which the federal government has unilaterally reduced the funding it provides to provinces and territories to support health care.

A 2012 study commissioned by the Council of the Federation estimates that, as a result of recent unilateral federal changes to its support for health care expenditures, the federal share of health care expenditures of provinces and territories will decline from 20.5 per cent in 2010–11 to as low as 17.1 per cent in 2030–31.<sup>12</sup> This decline will occur when adequate and sustained federal support for health care is needed most. In Ontario alone, the number of seniors is projected to double by 2035, which will create additional pressures on the Province's health care spending.

Given the federal government's tendency to act unilaterally, it is very difficult for Ontario to change this fiscal imbalance without federal cooperation. In place of a one-sided relationship, the Province continues to seek to build a meaningful partnership with the federal government to overcome the challenges that Ontario and other provinces and territories face.

In contrast to the fiscal sustainability challenges facing provinces and territories, organizations such as the federal Office of the Parliamentary Budget Officer (PBO)<sup>13</sup> project that the federal government will be fiscally sustainable over the long term. The PBO's "Fiscal Sustainability Report 2013" illustrates that the federal government will achieve its own fiscal sustainability primarily by restraining future growth in the Canada Health Transfer (CHT) — therefore, in the absence of government action, funding health care as the population ages will be a greater fiscal burden borne by provinces and territories.

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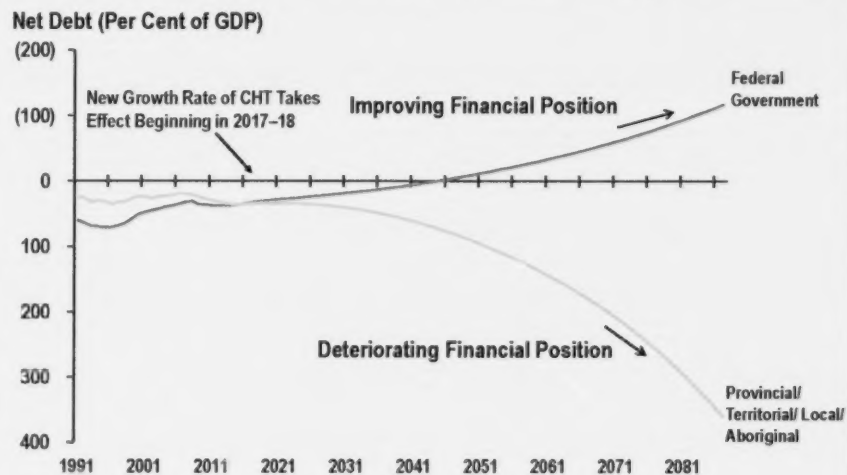
<sup>12</sup> Council of the Federation, "Report of the Council of the Federation Working Group on Fiscal Arrangements," 2012.

<sup>13</sup> Parliamentary Budget Officer, "Fiscal Sustainability Report 2013," 2013.



## Federal and Other Governments' Financial Positions

CHART 4.6



In 2012, a report by the Auditor General of Canada reinforces this analysis.<sup>14</sup> According to this report, approximately 60 per cent of the improvement in the federal fiscal position by 2050–51 will be attributable to federal changes to the Canada Health Transfer.

<sup>14</sup> Office of the Auditor General of Canada, "2012 Fall Report of the Auditor General of Canada," (2012).



Health care is not the only area where the federal government has taken actions that negatively impact provinces and territories.

- In its 2012 budget, the federal government unilaterally announced it would change the eligibility age for the Old Age Security and Guaranteed Income Supplement programs, moving it from 65 to 67. The Council of the Federation is in the process of quantifying the impacts of this federal change, as it will inevitably create pressures on provincially funded programs such as social assistance.
- As immigration becomes the main source of labour force growth, cooperation between the federal government and Ontario to help newcomers integrate smoothly into the labour market will become increasingly important. Over the past year, Ontario has worked closely with other provinces and territories to ensure that renewed labour market agreements increase employer engagement in skills training, while protecting successful programs for vulnerable Ontarians, including new immigrants.
- Even in areas where the federal government is increasing investment compared to historically low levels, it is often not enough. For example, with infrastructure, an area where public investment has demonstrated positive impacts on economic performance, the federal government is still falling short on the investment levels that are needed. Federal funding for infrastructure should be closer to the level being invested by Ontario and its municipalities, given the fundamental role infrastructure plays in Canada's economic growth.

Overall, the direction the federal government is taking to manage its fiscal balance places a disproportionate burden on Ontario. The evidence increasingly suggests that the current system of federal–provincial fiscal arrangements is working against, not for, Ontarians. The Mowat Centre's 2013 report, "Filling the Gap," estimates, based on 2009–10 data, that the gap between what the people of Ontario pay to the federal government and what they receive in the form of programs and transfers is \$11.1 billion.<sup>15</sup> This gap is simply neither sustainable for Ontario, nor fair to Ontarians.

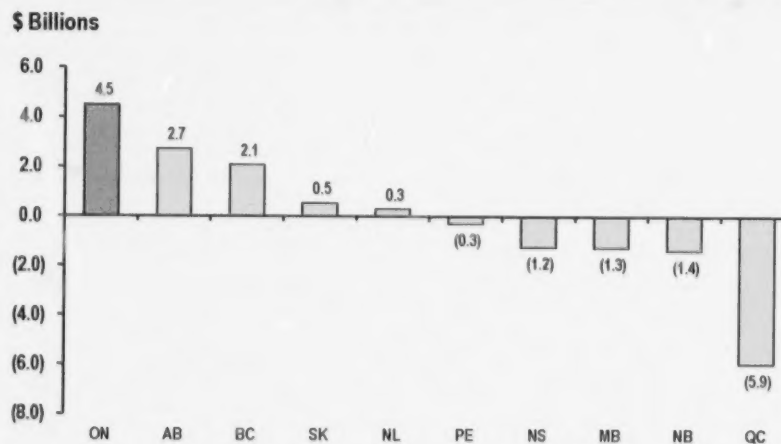
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<sup>15</sup> N. Zon, "Filling the Gap: Measuring Ontario's Balance with the Federation," Mowat Centre, (2013).

The discrepancy between what Ontarians contribute to the federation versus what they receive is clearly demonstrated through the Equalization program. In 2014–15, the difference between what the people of Ontario pay into the Equalization program through federal taxes and what the Province receives in Equalization payments will grow to \$4.5 billion from \$3.1 billion in 2013–14. Ontarians' net contribution to the Equalization program continues to be the largest of all provinces.

**Net Contribution to/(Benefit from) Equalization  
by Province in 2014–15**

CHART 4.7



Source: Ontario Ministry of Finance calculations based on data from Finance Canada and Statistics Canada.

Ontario cannot face on its own the challenges of economic and demographic changes as well as the burden of stepping in to fill gaps created by federal reductions to spending or taking on greater fiscal pressures as a result of federal offloading. Ontario has long called for predictable and sustainable support from the federal government to overcome the challenges that Ontario — and Canada — collectively face. There is a need for a broader, meaningful discussion on how to modernize the system of fiscal arrangements to better address the demographic and economic challenges facing the country.



## CHAPTER 5: PRODUCTIVITY IN ONTARIO: CHALLENGES AND OPPORTUNITIES

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### INTRODUCTION

Productivity growth is a key driver of an economy's prosperity and living standards.<sup>1</sup> Labour productivity growth for Ontario's business sector, including key subsectors, has slowed significantly over the past decade. In addition, Ontario's productivity gap with the United States, its key trading partner, has continued to widen.

As the growth of Ontario's labour force slows due to the aging of the population, stronger productivity growth will be increasingly important to ensure future prosperity. A key challenge will be the shaping of government policies to support private-sector opportunities that will raise productivity growth in the future.

Productivity is not the sole determinant of economic well-being. Terms of trade also affect economic well-being.<sup>2</sup> As well, how each citizen shares in economic output depends on the distribution of income and on tax and transfer policies. In addition, the measurement of gross domestic product (GDP) or "output" is imperfect and excludes both negatives (e.g., pollution) and positives (e.g., the free or unpriced enjoyment of parks and natural spaces). Nonetheless, productivity is important and failure to keep up with others will affect Ontario's ability to compete and maintain its standard of living.

Section 1 of this chapter reviews Ontario's historical productivity trends. Section 2 describes Ontario's productivity growth relative to other comparable jurisdictions. In Section 3, potential causes of Ontario's lagging productivity growth are explored. Section 4 focuses on current policy initiatives and possible areas of policy focus that would help raise productivity growth in the future. Finally, Section 5 identifies opportunities for the business sector to strengthen productivity over the long term.

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<sup>1</sup> Productivity is the relationship between output and inputs or factors of production. Labour productivity, the focus of this chapter, is defined as the ratio of output to labour input.

<sup>2</sup> Terms of trade are defined as the ratio of the price of exports to the price of imports.

## 1. Ontario's Historical Productivity Trends

An analysis of productivity trends must take a long-term view since annual rates of productivity growth tend to be influenced by business cycles. Decomposing real GDP growth into two parts — growth in hours worked and growth in labour productivity (i.e., output per hour worked) — allows a comparison of the relative contribution of each. Over the 1984–2011 period, this reveals a number of important insights (Chart 5.1):<sup>3</sup>

- In general, since 1984, growth in hours worked has been the more important contributor to real GDP growth.
- During the 1980s, hours worked tracked real GDP closely, which was reflected by weaker labour productivity growth over this period.
- During the early 1990s, labour productivity increased steadily while hours worked declined, a reflection of job losses during the 1991–93 recessions.
- Over the second half of the 1990s, labour productivity and hours worked both grew strongly, with the result that real GDP posted very strong rates of growth.
- Over the past decade, while hours worked have increased steadily, labour productivity has plateaued.

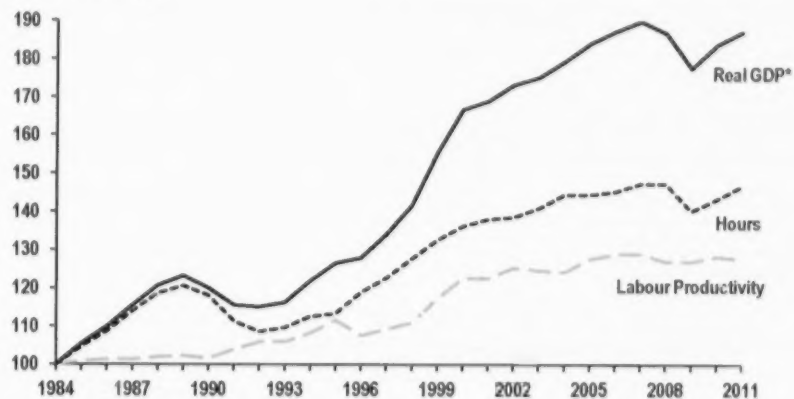
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<sup>3</sup> This chapter uses Statistics Canada's Canadian Productivity Accounts database covering the 1984–2011 period for Canada and Ontario. While Statistics Canada revised its productivity series at the industry level in November 2013, these series only cover 2007–2012. Statistics Canada recommends using the longer-term "original" series until the new revised series with data going back to 1997 become available later this year.

# Ontario Labour Productivity, Output and Hours Worked

CHART 5.1

## Ontario Business Sector (Index: 1984=100)



\*Real GDP at basic prices in 2002 dollars.  
Source: Statistics Canada.

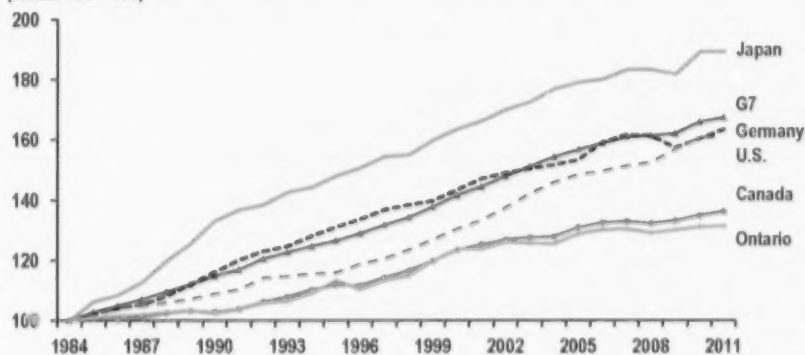
## 2. Ontario's Productivity Growth Compared to Other Jurisdictions

Productivity growth in Canada and Ontario lagged that in other G7 countries over the 1984–2011 period (Chart 5.2). During this period, Japan, Germany and the G7 countries experienced higher productivity growth relative to the United States, while Ontario and Canada lost considerable ground in productivity compared to their U.S. neighbour.

Ontario Labour Productivity Compared with Advanced Economies

CHART 5.2

Total Economy: Real Output Per Hour Worked (2005 \$US PPP)  
(Index: 1984=100)



Notes: OECD figures are available for Total Economy and not for the Business Sector. Ontario Total Economy figures are obtained from Canadian Productivity Accounts and converted from Canadian dollars to U.S. dollars at 2005 purchasing power parity (PPP) rate.

Sources: Organisation for Economic Co-operation and Development, Statistics Canada and Ontario Ministry of Finance.

In the past decade, Ontario and Canada's productivity has plateaued, contributing to widening productivity gaps with the other advanced economies. Although such international comparisons are fraught with challenges because of measurement problems, they nonetheless convey an important message that productivity in Ontario and Canada has not kept pace with that in major advanced economies over the last three decades.



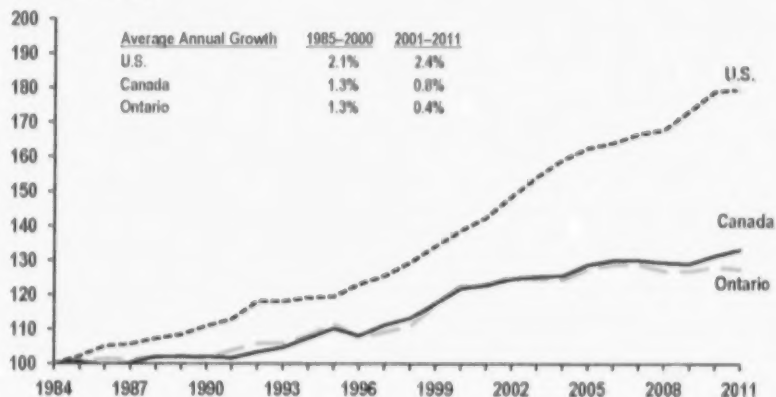
The Ontario and Canadian economies are highly integrated with that of the United States, which makes the United States a key benchmark for various cross-country comparisons. Ontario and Canada have faced a widening productivity gap and declining productivity growth relative to the United States (Chart 5.3).

- Between 1985 and 2000, business-sector productivity growth averaged 1.3 per cent annually in both Ontario and Canada compared to growth of 2.1 per cent in the United States.
- Since 2001, the productivity gap has widened further, as business-sector productivity growth slowed to 0.4 per cent annually in Ontario and 0.8 per cent in Canada, while U.S. productivity growth picked up to 2.4 per cent annually.

#### Labour Productivity in Ontario, Canada and the United States

CHART 5.3

##### Business Sector: Real Output Per Hour Worked (Index: 1984=100)



Sources: Statistics Canada, U.S. Bureau of Labor Statistics and Ontario Ministry of Finance.

The Task Force on Competitiveness, Productivity and Economic Progress<sup>4</sup> noted that, in 2012, Ontario's lagging productivity accounted for the greatest share of Ontario's prosperity gap (as measured by GDP per capita relative to the median of 16 North American peers).<sup>5</sup> If Ontario's productivity had not lagged, higher notional output in Ontario could have been used for increased personal consumption, higher private or public investment, or additional public services.

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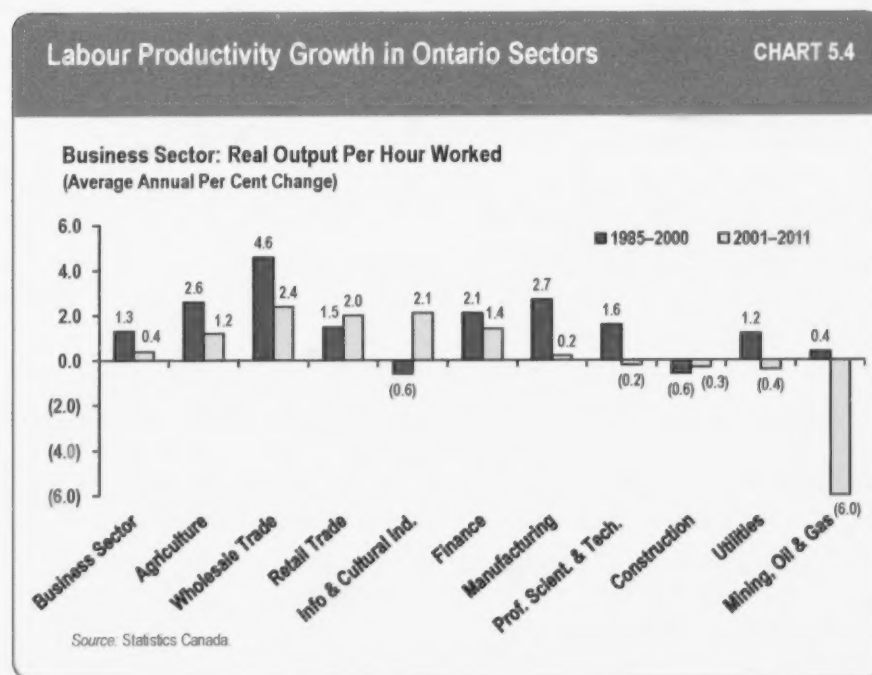
<sup>4</sup> Task Force on Competitiveness, Productivity and Economic Progress, "Course Correction: Charting a New Road Map for Ontario," The Institute for Competitiveness & Prosperity, (November 2013).

<sup>5</sup> In particular, Ontario's productivity gap contributed \$8,300 to the prosperity gap of \$8,000 (offset by Ontario's "work effort advantage," amounting to \$300).

### 3. Potential Causes of Ontario's Lagging Productivity Growth

This section examines Ontario's productivity growth at the industry level and discusses the role of labour, capital, innovation and other factors on Ontario's productivity growth.

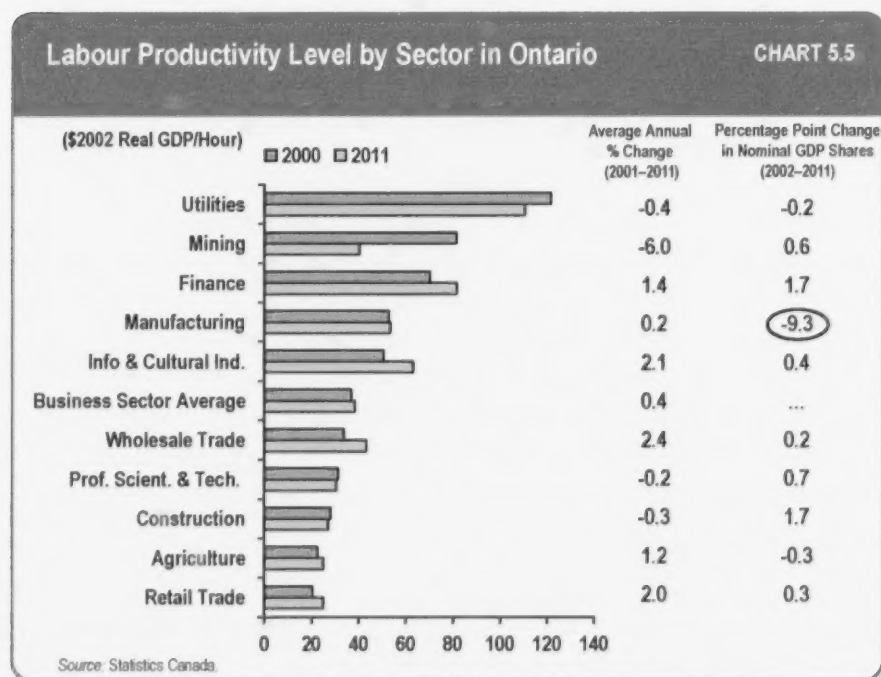
The slowdown in growth of Ontario's aggregate business sector productivity can be attributed to both weaker productivity growth within individual industries and a shift in economic activity from high-productivity industries to low-productivity industries. As shown in the chart below, Ontario has experienced a decline in productivity growth in a number of its important high-productivity sectors, notably manufacturing, utilities and mining.<sup>6</sup>



<sup>6</sup> During the past decade, the impact of the 2008-09 recession on productivity growth in these industries, particularly manufacturing, was more pronounced than for prior recessions over the 1985-2000 period.

The share of Ontario's high-productivity manufacturing sector in the overall economy has declined over the past decade (Chart 5.5). In particular, within manufacturing, the relative size of the very high-productivity transportation equipment and chemical industries saw marked declines (Chart 5.6). In transportation equipment manufacturing, global structural forces were likely more important drivers of this decline than any firm- or plant-specific factors.<sup>7</sup>

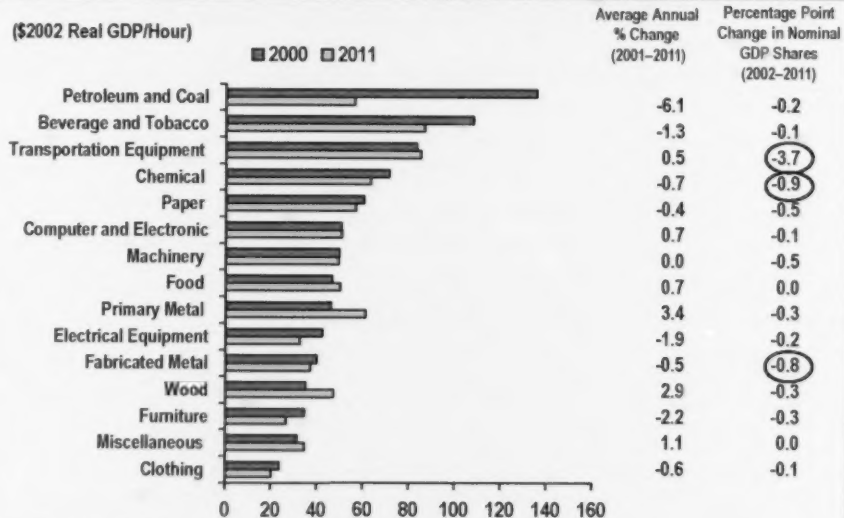
Many experts have attributed the relative decline in the manufacturing sector to an overvalued Canadian dollar and increased global competition in key markets such as the United States. However, other factors have also been identified, including low investment in machinery and equipment (M&E) and, in particular, information and communications technology (ICT); weak spending on research and development (R&D); slow adoption of new innovations by business; and regulatory barriers, particularly between provinces.



<sup>7</sup> In fact, the decline in transportation equipment manufacturing occurred even though Canada's automobile assembly plants have been found to be more productive than plants in the United States or Mexico. See, for example, J. Stanford, "Productivity in the North American Auto Assembly Industry, 1998–2007," Canadian Auto Workers, (January 2009).

# Labour Productivity Level by Manufacturing Sector in Ontario

CHART 5.6



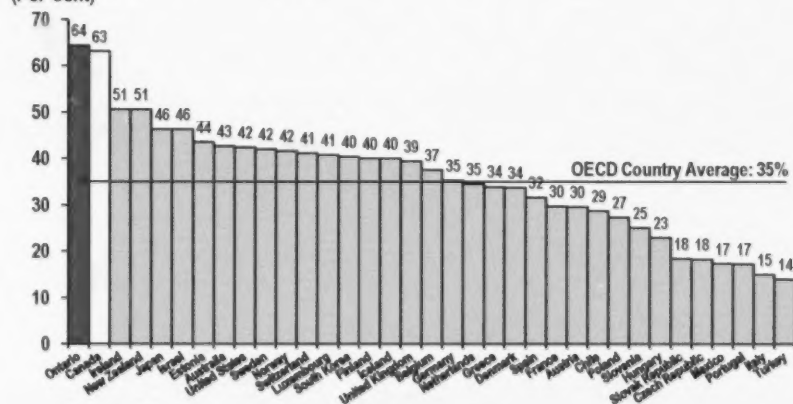
## Labour's Role in Productivity Growth

Labour quality, influenced by education and training, plays a key role in driving both productivity growth and an economy's standard of living. Ontario has made significant investments in the knowledge and skills of its people, from full-day kindergarten to postsecondary education. These investments have already shown positive results. Ontario's high school graduation rate increased from 68 per cent in 2003–04 to 83 per cent in 2011–12. Seventy-one per cent of children in Grades 3 and 6 are meeting the provincial standards in literacy and numeracy, an increase from 54 per cent in 2002–03. With a postsecondary education attainment rate of 66 per cent in 2013, Ontario continues to benefit from one of the most highly educated workforces in the world.

### Ontario Has Highly Educated Workforce Relative to OECD Countries

CHART 5.7

**Postsecondary Education:  
Share of Adult Population (25–64), 2011  
(Per Cent)**



Note: International rankings are based on latest available data.

Sources: *Education at a Glance 2013*, Organisation for Economic Co-operation and Development and Statistics Canada, Labour Force Survey

At the same time, Ontario faces a number of labour market challenges.

Several segments of the population continue to struggle to successfully integrate into the labour market, including youth, recent immigrants, Aboriginal people and people with disabilities.

Some employers and industry groups are also concerned that a skills mismatch exists, where the qualifications of job seekers do not meet employers' needs. This suggests there is a need for collaboration among governments, employers and educational institutions to ensure that workers have the skills required for high-productivity jobs.

It is equally important to address the issue of insufficient workplace training by employers. Studies show that organizations in Canada spend less than those in the United States and those in Ontario spend less than those in most other provinces.<sup>8</sup>

### **Cost Competitiveness**

Ontario's cost competitiveness has been eroded in recent years, with unit labour costs<sup>9</sup> rising significantly (Chart 5.8). The labour cost of producing a unit of output in Ontario increased by 69 per cent over the last 13 years, while comparable costs in the United States increased by only 28 per cent.<sup>10</sup> The key factors responsible for the sharp increase in Ontario's unit labour costs have been Ontario's weak labour productivity growth and the significant appreciation of the Canadian dollar.<sup>11</sup>

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<sup>8</sup> According to a 2011 Conference Board of Canada study, between 2006 and 2010, Canadian organizations spent an average of 64 cents for every dollar that American organizations spent on learning and development activities per employee. Another Conference Board of Canada study published in 2009 showed that Ontario organizations dedicated 1.5 per cent of their payroll to annual training, learning and development expenditures from 2004 to 2008, less than other provinces, except for the Atlantic provinces.

<sup>9</sup> Unit labour cost measures the average cost of labour per unit of output or production. It is calculated as the ratio of total labour cost (or compensation) to real output or, equivalently, as the ratio of average labour cost per unit input to labour productivity (output per unit of input).

<sup>10</sup> The latest year of available data from the OECD for Canada is 2010. As a result, the same end year was used for all countries included in the chart.

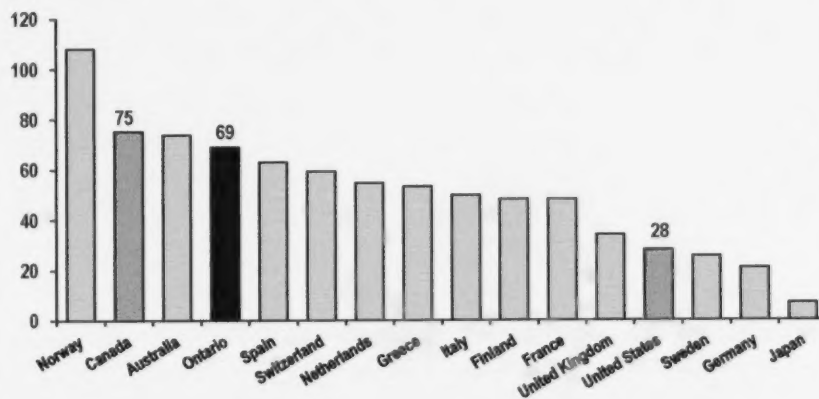
<sup>11</sup> When expressed in national currencies, unit labour costs increased by 26 per cent for Ontario over the 1997–2010 period — less than the 30 per cent increase for Canada and the 28 per cent increase for the United States.



## Unit Labour Costs in Advanced Economies

CHART 5.8

**Total Economy Unit Labour Costs, \$US Market Exchange Rate, 1997–2010**  
(Per Cent Change)



Sources: Organisation for Economic Co-operation and Development and Ontario Ministry of Finance.

## Business Investment and Productivity Growth

Weak capital investment in machinery and equipment (M&E), especially in information and communications technology (ICT), has likely contributed to Ontario's lagging productivity growth.

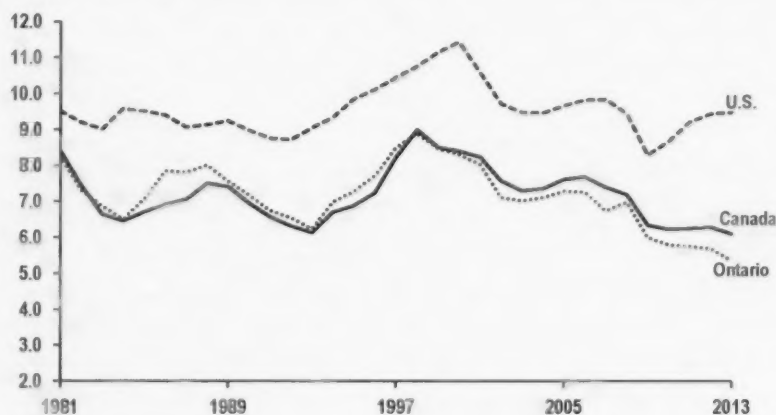
Machinery and equipment investment matters critically for labour productivity growth, not only because it increases the amount of capital per worker, but also because it brings new technology to the workplace. Rapid adoption of new technologies spurs innovation, efficiency gains and increased competitiveness, which lead to higher output.

Ontario's M&E investment relative to the size of the economy has remained consistently below that of the United States since 1981, and has declined considerably since 1998 (Chart 5.9).

**M&E Investment in Ontario Relative to  
Canada and the United States**

CHART 5.9

**Machinery and Equipment Investment\***  
(Per Cent of Nominal GDP)



\*Includes intellectual property products.

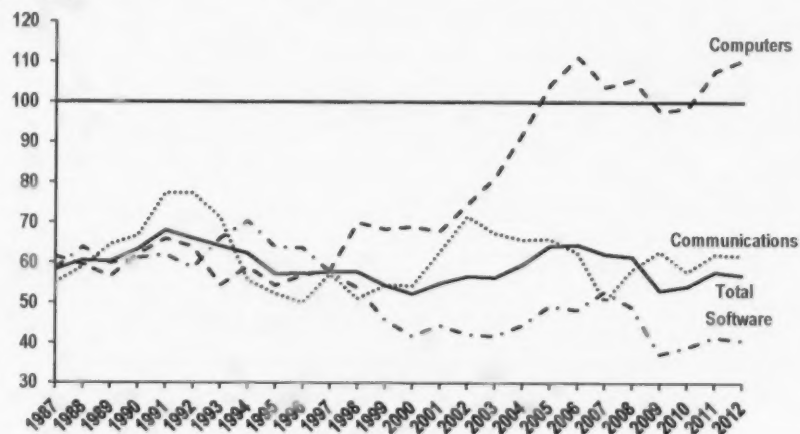
Sources: Statistics Canada, U.S. Bureau of Economic Analysis and Ontario Ministry of Finance.

Investment in ICT has also underperformed in Canada (Chart 5.10). The ICT investment gap (measured as nominal ICT investment per worker) in Canada relative to the United States is most pronounced in software. In particular, the difference in software investment per worker between Canada and the United States accounted for 85 per cent of the overall difference in total ICT investment per worker in 2012.

**ICT Investment Per Worker in Canada Relative to the United States**

CHART 5.10

**Business Sector, Current Dollars at Purchasing Power Parity  
(Per Cent)**



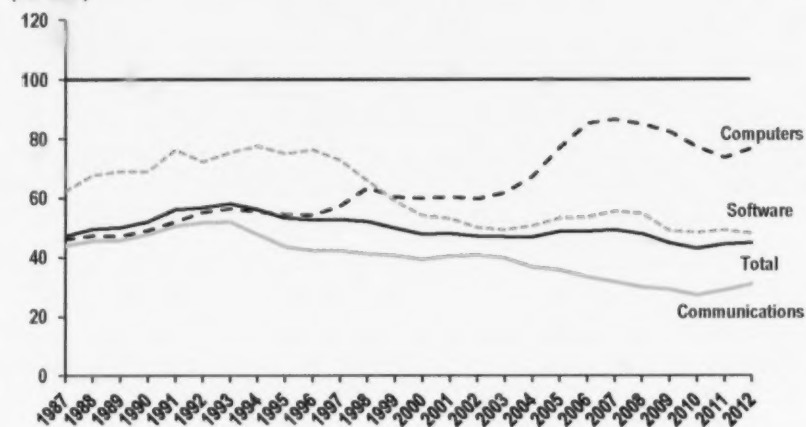
Sources: U.S. Bureau of Economic Analysis, Centre for the Study of Living Standards and Statistics Canada.

In terms of nominal ICT capital stock per worker, Canada's gap is also significant relative to the United States — around 55 per cent (Chart 5.11). While Canada's ICT capital-stock gap for computers has generally improved relative to the United States, the gap is more pronounced in communications and software.

**ICT Net Capital Stock Per Worker in Canada Relative to the United States**

CHART 5.11

**Business Sector, Current Dollars at Purchasing Power Parity  
(Per Cent)**



Sources: U.S. Bureau of Economic Analysis, Centre for the Study of Living Standards and Statistics Canada.

## Innovation and Other Factors

In addition to labour and capital investment, a number of other factors play important roles in supporting labour productivity growth.<sup>12</sup> One of the most critical factors is innovation.

Innovation is what firms do to create economic value through new or improved products, processes, marketing methods or organizational advances.

Historically, Canadian industry's high reliance on the United States may have led to a degree of complacency ("low-innovation equilibrium") marked by acceptable profit margins, strong job growth, a weak Canadian dollar and an upstream position in global supply chains.<sup>13</sup> This complacency may have reduced firms' adoption of innovation as a business strategy, which has contributed to weak productivity growth.

Ontario's economy should have a strong capacity for innovation. As noted above, the province has a well-educated workforce, with 66 per cent of the population having a postsecondary education. Ontario is also home to a research-intensive academic system that includes 22 universities, 24 colleges and 24 academic hospitals. As well, more than 530,000 scientists and engineers were employed in Ontario in 2013, representing 40 per cent of the Canadian total. Ontario offers a competitive business tax environment, with marginal effective tax rates below the U.S. and Organisation for Economic Co-operation and Development (OECD) averages, as well as generous research and development (R&D) tax credits. The government also offers a well-developed suite of commercialization programs to translate ideas into goods and services for the global marketplace.

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<sup>12</sup> Other factors are typically referred to as multifactor productivity (MFP). MFP is a "residual" in GDP growth accounting that reflects hard-to-measure factors such as technological improvement and innovation, firm size and turnover, entrepreneurial "know-how," management quality, public infrastructure, regulatory impediments, intangible capital and so on. There is some debate over the relative contributions of capital and MFP to labour productivity growth. Studies by Statistics Canada have generally concluded that MFP's contribution in Canada has been weak relative to the United States and also that MFP growth in Canada has slowed over the past decade. However, others such as Diewert and Yu (2012) find that MFP performance has been reasonably satisfactory in Canada and that capital's contribution has been weak.

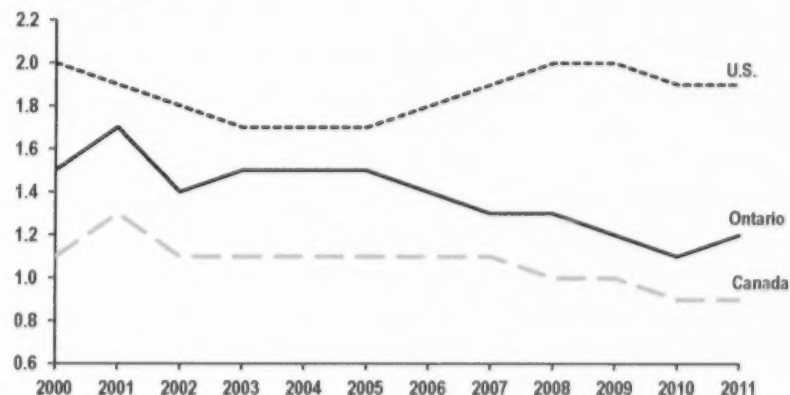
<sup>13</sup> Workshop presentation by P. Nicholson (Rotman School of Management, Toronto, 2013): <http://www.economics.mcmaster.ca/productivity/Nicholson%20Presentation.pdf>. Also see, "Paradox Lost: Explaining Canada's Research Strength and Innovation Weakness," Council of Canadian Academies, (2013).

Despite this capacity, Ontario's record in business innovation has been weak. This is evident when looking at business expenditures in R&D, which is one measure of innovative activity in the private sector. Business R&D spending as a percentage of GDP in Ontario has continuously lagged the United States over the last decade (Chart 5.12), despite generous tax incentives and funding support. The gap in business R&D activity has widened since 2005, largely due to a decline in R&D performed by Ontario's manufacturing sector. Ontario's declining business R&D expenditures over the past decade were particularly concentrated in communications equipment manufacturing.<sup>14</sup>

**Research and Development Spending in Ontario  
Relative to Canada and the United States**

CHART 5.12

**Business R&D Spending  
(Per Cent of GDP)**



Sources: U.S. Bureau of Economic Analysis, U.S. National Science Foundation and Statistics Canada

<sup>14</sup> The communications equipment manufacturing is an R&D-intensive industry that experienced a drop in economic output from peak levels in 2000.

The quality of management plays an important role in business innovation. The Task Force on Competitiveness, Productivity and Economic Progress found that Ontario managers tend to have fewer university degrees than their American counterparts.<sup>15</sup> A comprehensive research study using a sample of more than 10,000 firms in 20 countries found that management quality is an important contributor to firms' overall performance and their productivity.<sup>16</sup>

An important area of strength within Ontario's private sector has been its collaboration with academic institutions, which is a key measure of cooperation and a potential source of technological transfer. Ontario has one of the highest rates of higher-education R&D funded by business among G7 jurisdictions. In addition, based on U.S. Patent and Trademark Office data, Ontario's patenting intensity exceeds that of all Canadian provinces and G7 countries, except for Japan and the United States. Even so, there is little evidence that these activities have resulted in a proportionate increase in the introduction of innovative goods and services by Ontario businesses.

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<sup>15</sup> Task Force on Competitiveness, Productivity and Economic Progress, "A Push for Growth: The Time Is Now," The Institute for Competitiveness & Prosperity, (November 2012).

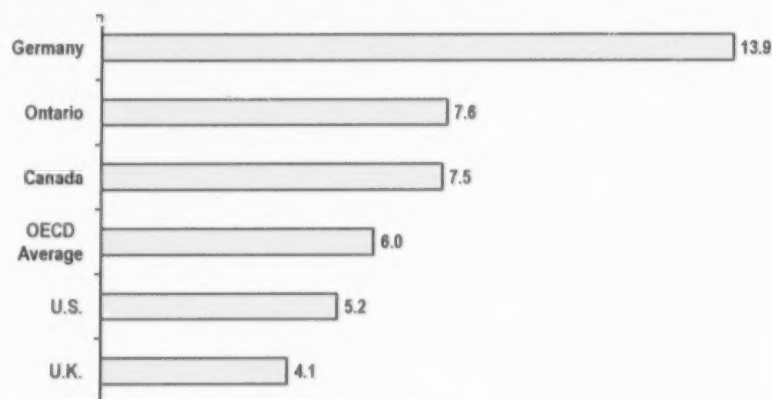
<sup>16</sup> N. Bloom, C. Genakos, R. Sadun and J. Van Reenen, "Management Practices across Firms and Countries," *Academy of Management Perspectives*, (February 2012).



### Ontario's Business-Funded Higher Education R&D Compared to Selected Countries

CHART 5.13

Percentage of Higher Education R&D Funded by Business (2010)



Sources: OECD and Statistics Canada.

Entrepreneurial startups often exploit technological or commercial opportunities that have been overlooked by more established companies, which have a positive impact on long-term productivity growth. The availability of venture capital financing is often linked to entrepreneurial firm growth. Ontario has a robust venture capital market. Among G7 countries, Ontario trails only the United States in venture capital investments as a proportion of GDP. To better encourage the growth of entrepreneurial firms, Ontario's innovation system may need further strengthening of the linkages among business, academia and government.

Investment in intangible assets is increasing in many developed countries and regions, including Ontario. Intangible assets that provide future benefits but do not have physical embodiment, such as computer software, R&D, managerial skills and organizational structure, marketing and branding, contribute significantly to productivity and economic growth. In addition, investments in intangible capital are essential for developing a comparative advantage in international trade, penetrating high-value segments of global value chains and effectively reallocating resources to innovative firms.

In Ontario, investment in intangible assets is a valuable component of business-sector output. It is estimated that, in 2008, investment in intangibles in Ontario accounted for 10.4 per cent of total output,<sup>17</sup> which exceeded that of Germany (7.2 per cent), France (7.9 per cent), Italy (5.0 per cent) and Spain (5.5 per cent),<sup>18</sup> but was lower than estimates in the United Kingdom (10.5 per cent), the United States (11.5 per cent)<sup>19</sup> and Canada (13.2 per cent).<sup>20</sup>

Another important factor that may help explain Ontario's lower productivity growth is a relatively high concentration of small and medium-sized firms. Larger firms are generally more productive than smaller firms. Recent studies by Statistics Canada<sup>21</sup> have found that the United States has a greater share of larger firms than Canada. The productivity gap between smaller and larger firms is attributed to factors such as economies of scale, capital costs and differences in managerial efficiency. In addition, in 2008, small and medium-sized firms<sup>22</sup> accounted for around 70 per cent of hours worked in Canada (56 per cent in the United States). However, Canadian small and medium-sized firms' productivity was 47 per cent that of large firms while it was 67 per cent in the United States in the same year.

Barriers to entry and competition in key Canadian industries such as transportation, telecommunications, financial services and professional services have been attributed by observers to slower productivity growth in Canada. At the same time, a number of countries have taken steps to remove barriers to competition in their key industries, contributing to greater innovation and lower prices for consumers.

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<sup>17</sup> T. Muntean, "Intangible Assets and Their Contribution to Productivity Growth in Ontario," 2013. Forthcoming in *International Productivity Monitor*, Spring 2014. 2008 is the latest data available at the provincial level.

<sup>18</sup> 2006 data, B. Van Ark, J. Hao, C. Corrado and C. Hulten, "Measuring Intangible Capital and its Contribution to Economic Growth in Europe," *European Investment Bank Papers* No. 1 (2009).

<sup>19</sup> Ibid.

<sup>20</sup> 2008 data, J.R. Baldwin, W. Gu and R. Macdonald, "Intangible Capital and Productivity Growth in Canada," *The Canadian Productivity Review*, Statistics Canada, (2012).

<sup>21</sup> D. Leung and L. Rispoli, "The Distribution of Gross Domestic Product and Hours Worked in Canada and the United States Across Firm Size Classes," Statistics Canada, (March 2014); and J.R. Baldwin, D. Leung, and L. Rispoli, "Canada-United States Labour Productivity Gap Across Firm Size Classes," Statistics Canada, (January 2014).

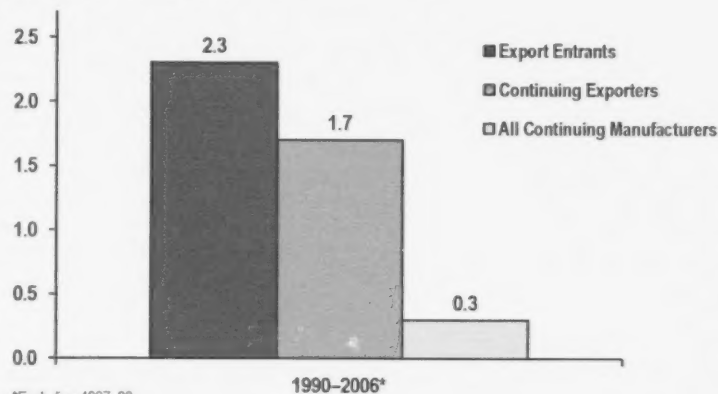
<sup>22</sup> The Statistics Canada studies define small firms as having 0 to 499 employees (and large firms as having 500 or more employees). However, many analysts refer to the firms with 0 to 499 employees as small and medium-sized firms.

Expanding exports helps strengthen productivity and competitiveness, thereby sustaining economic growth (Chart 5.14).<sup>23</sup> Exporting firms become more productive as they exploit scale economies, learn and adapt to global competition, and adopt best practices. For instance, a 2012 Statistics Canada study found that Canadian manufacturers entering export markets between 1990 and 2006 had annual productivity growth of 2.3 per cent — much larger than the 0.3 per cent for all continuing manufacturers.

**Exporters Achieve Faster Productivity Growth**

CHART 5.14

Canadian Manufacturing Productivity Growth  
(Average Annual Per Cent)



\*Excluding 1997-99.

Note: Productivity is defined as real value-added output per employee.

Source: J.R. Baldwin and B. Yan, "Market Expansion and Productivity Growth: Do New Domestic Markets Matter as Much as New International Markets?" Statistics Canada, (2012).

<sup>23</sup> The same study also suggested that exporting to other Canadian provinces generates similar productivity benefits for manufacturers.

## 4. Policies to Improve Productivity

Ontario has undertaken a number of policies to improve productivity and competitiveness.

The government has put in place a competitive tax system for business, streamlined regulations, and enhanced the safety and efficiency of capital markets. For example, since 2009 the marginal effective tax rate on new business investment has been cut in half. Still, many firms continue to underinvest in innovation and productivity-enhancing technologies such as R&D, new equipment and computer software.

Ontario is working with other levels of government, businesses and various groups to enhance the innovation system through improving regulatory frameworks, making strategic infrastructure investments, supporting labour-market efficiency and flexibility, and pursuing policies to expand trade.

Ontario has adopted three fundamental principles that encourage enhanced business productivity and give Ontarians access to good jobs:

- Investing in people;
- Investing in modern infrastructure; and
- Creating a dynamic and innovative business climate.

In its 2012 report,<sup>24</sup> the Jobs and Prosperity Council identified a number of policy levers that would help maximize Ontario's export opportunities including organizing trade missions; leveraging connections between Ontario's multicultural population and emerging market economies; building management expertise; and enhancing the export capacity of small and medium-sized enterprises.

There are various policy initiatives that could help strengthen Ontario's productivity growth and competitiveness over the long term: streamlining regulations; trade expansion; strengthening labour markets; strengthening innovation; enabling productive investment; supporting an efficient and stable financial system; strengthening competition; and investing in public infrastructure.

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<sup>24</sup> Jobs and Prosperity Council, "Advantage Ontario," (2012).

## **Streamlining Regulations**

The Ontario government's Open for Business Initiative continues to make the province more attractive for business development while protecting the public interest. This initiative has reduced regulations by more than 17 per cent over three years, resulting in a reduced burden on business and stakeholders.

## **Trade Expansion**

The Province is committed to expanding and diversifying its trade base. The Going Global Trade Strategy will expand the reach of Ontario's trade, including with fast-growing emerging markets and would largely benefit advanced manufacturing (e.g., telecommunications, aerospace and machinery); financial, business and engineering services; agri-food; and primary commodities. This strategy will help Ontario companies — especially small and medium-sized businesses — increase their success exporting to global markets.

Trade agreements increase competition in Ontario markets. This benefits consumers and also increases the pressure on Ontario firms to innovate and compete aggressively.

Ontario is working with the federal government to finalize a historic trade and investment agreement with the European Union. The deal would mean expanded access to European markets for Ontario manufacturers and service providers, more sales of goods and services, and, as a result, more job creation. The Province is also broadening the reach of Ontario's exports to high-growth emerging economies. This includes working with the federal government to pursue new trade agreements that increase market access abroad, including the Trans-Pacific Partnership currently involving 12 nations and a Canada-Japan trade agreement. On the recently concluded Canada-Korea Free Trade Agreement, Ontario is calling for a taskforce to monitor the implementation of this agreement, reporting on South Korea's non-tariff barriers to identify if they are discriminating against Canadian-made autos.

## **Strengthening Labour Markets**

Over the past decade, Ontario has made significant investments to ensure its workers have the skills and adaptability required to succeed in today's and tomorrow's economy. Greater availability of labour market information to support job matching could improve Ontario's economic performance by better connecting people to jobs and employers. Improving the availability of reliable labour market information would help students, employers and job seekers make better-informed choices that are more aligned with the needs of the labour market and the economy.

## **Strengthening Innovation**

The Ontario government has introduced numerous policies and programs to improve the climate for business innovation in the province's economy. For example, the Province has reduced corporate income taxes and simplified the regulatory burden on businesses. As well, it offers significant support for innovation through generous R&D tax credits, investments in academic R&D, as well as a comprehensive suite of innovation-related programs.

Investments in innovation allow businesses to introduce new or improved products and services to the global marketplace, or reduce their costs to better meet customer needs. The government will continue to encourage and support innovation to help improve productivity growth in Ontario.

## **Enabling Productive Investment**

Greater investment can help firms become more competitive, while contributing to raising Ontario's productivity. The government, in association with industry groups, could help companies measure and report their investments in innovation, training and technology, and benchmark them to global best practices, helping managers identify areas for improvement. Another potential way to increase productive investment by firms is through the use of incentives in the tax system to encourage incremental spending on R&D, physical capital and worker training.



## Supporting an Efficient and Stable Financial System

A financial sector that is strong, resilient and efficient plays an important role in enabling the long-term growth of GDP and productivity. It not only channels capital for investment, but also helps promote the efficient allocation of capital and wealth as well as modern and well-functioning financial transactions — all contributing to productivity. Ontario's financial sector remains strong and stable, home to the soundest banks in the world and a stock market, the Toronto Stock Exchange, that is the seventh largest in the world, based on market capitalization.

Ontario's financial markets are well regulated and foster safe, stable and attractive investment opportunities. The government remains committed to modernizing securities laws and the regulatory framework to ensure sound and efficient markets. Ontario has long been a leader in advocating for the creation of a common securities regulator in Canada, a key to the country's ability to sustain and grow its financial services industry. In 2013, Ontario, British Columbia and the federal government announced an agreement in principle to establish a Cooperative Capital Markets Regulatory system that is expected to be operational by July 1, 2015. It will better protect investors, support efficient capital markets and manage systemic risk.

## Competitive Intensity

As noted, part of the productivity slowdown can be explained by inadequate competition in the Canadian economy, particularly in regulated "network" sectors such as transportation, telecommunications and financial services that have spillovers throughout the economy.<sup>25</sup> A 2012 OECD report on Canada notes that barriers also exist in professional services, including at the interprovincial level.<sup>26</sup> Measures to increase competition would strengthen incentives for companies in these sectors to innovate and commercialize their products, leading to higher productivity growth.<sup>27</sup>

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<sup>25</sup> See G. Bishop, "Competition Matters," Canada 2020, (January 2013) and M. Carney, "The Virtue of Productivity in a Wicked World," Remarks at the Ottawa Economics Association, (March 24, 2010).

<sup>26</sup> "OECD Economic Surveys: Canada," (2012).

<sup>27</sup> Bishop (2013) and Carney (2010).



## Investing in Public Infrastructure

Investing in modern infrastructure enhances Ontarians' quality of life and is a key driver of economic growth and prosperity. Since 2003, the Province has invested nearly \$100 billion in public infrastructure to reverse the underinvestment that had accumulated over previous decades.

Ongoing investment is needed to help develop, maintain and renew the province's infrastructure. Ontarians expect the current supply of public infrastructure to be maintained and that infrastructure investments meet the demand for increased service levels, foster economic growth and align with long-term trends.

The Province will continue to make significant infrastructure investments in transportation, health care and education, consistent with *Building Together*, Ontario's long-term infrastructure plan.

Building on its commitment to long-term infrastructure planning, in November 2013, the Province introduced Bill 141, the proposed Infrastructure for Jobs and Prosperity Act. If passed, the proposed long-term infrastructure planning legislation would help further align infrastructure planning with economic and demographic trends to maximize the value of provincial infrastructure investments.

Strategic infrastructure investments in transportation, including an efficient highway network, support the movement of goods along key corridors. Investments in public transit help improve mobility in urban centres — the areas that are expected to experience the fastest population growth over the next 20 years. Public transit investments improve the quality of life of Ontarians by helping to manage congestion and providing more transportation choices to reach schools, hospitals and jobs. These investments also result in significant economic benefits by providing businesses with a wider pool of workers and customers, and help make cities more attractive places to invest.

Recognizing the growing challenge of congestion in the Greater Toronto and Hamilton Area, the Province created Metrolinx in 2006 to lead the coordination and delivery of a regional transportation plan, *The Big Move*. Key projects identified in *The Big Move* are under construction throughout the region. The government will continue to invest in public transit infrastructure to give commuters more transit options.

Investments in health infrastructure, schools and postsecondary facilities support the delivery of high-quality health care and provide better places to learn. The Province continues to invest in state-of-the-art health care facilities and equipment in communities across Ontario to transform delivery of patient care. The Province is also supporting partnerships among colleges, universities and industry leaders to help ensure students are being trained for next-generation advanced manufacturing jobs.

The Province continues to explore innovative approaches to modernize public infrastructure. For example, it is leveraging private-sector expertise through Alternative Financing and Procurement (AFP) models. In addition, the Province's Municipal Infrastructure Strategy is improving how municipalities plan for and prioritize their infrastructure needs. Through the strategy, the Province is providing support for municipal asset management planning and critical projects in municipalities with challenging fiscal situations.

## 5. The Role of Business in Improving Productivity

In order to sustain and enhance prosperity, Ontario must improve its productivity growth. There is evidence that weak productivity growth in the business sector has been caused by:

- Weak capital investment in machinery and equipment, and particularly, information and communications technologies; and
- The failure to adopt innovation as a core business strategy, through investments in R&D and related innovative activities.

There is also evidence that the business sector has not made sufficient productivity-enhancing investments in innovation and human capital. Over the last 10 years, the government has done much to improve Ontario's business climate. It is essential that business takes the lead.

### Business Underinvestment

A number of economists argue a key challenge today is turning around a risk-averse and complacent business culture.<sup>28</sup> Others suggest that many Canadian businesses may be negatively affected by unrealistic perceptions of their investments in productivity and innovation.

In a 2013 study, Deloitte surveyed chief executives at almost 900 firms across the country. More than one-third believed their firms were as competitive as their peers, when in fact they were making fewer productivity-enhancing investments than their competitors.<sup>29</sup>

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<sup>28</sup> Council of Canadian Academies, "Innovation and Business Strategy: Why Canada Falls Short," (2009).

<sup>29</sup> Deloitte, "The Future of Productivity: A Wake-up Call for Canadian Companies," (June 2013).

The Task Force on Competitiveness, Productivity and Economic Progress has highlighted how the focus on short-term goals may threaten the long-term viability of many Canadian businesses.<sup>30</sup> Firms are often motivated to maximize short-term profitability in order to meet shareholder expectations. In these efforts, however, companies may be ignoring critical investments to enhance their productivity. A recent study found that privately held firms invest at nearly twice the rate of their public counterparts.<sup>31</sup>

Within Ontario specifically, evidence suggests that there are unique challenges, such as workplace training and innovation, where businesses must demonstrate a greater commitment to invest. Ontario businesses have been shown to underinvest in workplace learning compared to international competitors such as the United States, as well as most other provinces. Investments in labour quality are a key contributor to greater productivity growth.

In addition, Ontario's business R&D expenditures have experienced a decline in real terms over the last decade, compared to rapid increases in R&D expenditures by developing countries such as China. In a globalized economy characterized by rapid technological advances, business investments in innovation and R&D are critical for maintaining competitiveness for Ontario-based firms.

Ontario businesses are well positioned to turn their productivity record around and increase investment for long-term sustainable growth. Businesses in Ontario have strengthened their financial positions despite a challenging global economic backdrop. The Bank of Canada and others have pointed to the generally strong balance sheets of Canadian businesses and concluded that the business sector has the capacity to make increased investments to improve innovation and productivity. As well, there is a great potential for Ontario businesses to tap into growing demand from emerging markets. Increasing Ontario's exports beyond North America would support stronger future economic growth.

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<sup>30</sup> Task Force on Competitiveness, Productivity and Economic Progress, "A Push for Growth: The Time Is Now," The Institute for Competitiveness & Prosperity, (November 2012).

<sup>31</sup> J. Asker, J. Farre-Mensa and A. Ljungqvist, "Corporate Investment and Stock Market Listing: A Puzzle?" Working Paper, Stern School of Business, New York University (January 27, 2014).

There is scope for businesses to work together to improve the collective performance of industries, thereby benefiting the economy. In particular, businesses should look for mechanisms to measure and report on investment in innovation, training and technology, and to showcase top performers against international benchmarks. If there are legal or regulatory barriers to cooperation between competitors, the government is prepared to work with industry to remove them.

## **The Challenge Facing Business**

Although the Province is committed to working with industry, the responsibility for action lies largely with the business sector. As noted by economist Don Drummond, "Despite most of the public policy agenda that was put forward to improve productivity being implemented, productivity growth in this country since 2000 has actually deteriorated. This suggests that the private sector bears more responsibility for Canada's productivity malaise than previously thought."<sup>32</sup>

In the face of these challenges and rising competition from emerging economies, more work remains to ensure Ontario's economy continues to grow and create jobs. Ontario's business sector can do more to seize growing opportunities in export markets. It can take advantage of Ontario's low tax rates, access to skilled labour and affordable health system to make more productivity-enhancing investments. The government's role is to build a supportive environment in which firms and entrepreneurs can take risks, make investments, create jobs and drive innovation.

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<sup>32</sup> D. Drummond, "Confessions of a Serial Productivity Researcher," *International Productivity Monitor* 22, Centre for the Study of Living Standards, (Fall 2011).

## CHAPTER 6: RETIREMENT INCOME SECURITY

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### INTRODUCTION

Studies have shown that a significant portion of today's working-age population is not saving enough to ensure that they will have sufficient income to maintain their standard of living in retirement. In the absence of change, this problem will likely worsen over time.

Part of the reason that retirement savings have become inadequate is that people are living longer. While increasing lifespans are a sign of higher living standards and better health outcomes, they put pressure on personal savings and pension plans to provide sufficient income for a retirement period that can last several decades. Low workplace pension coverage, low personal savings and high household debt have exacerbated the retirement savings problem. As a result, the possibility of "outliving one's savings" has become a concern for many future retirees.

This risk is greatest for middle-income earners, who are less able to save and accumulate the wealth necessary to provide a secure and predictable retirement income for life.

Younger workers also face a challenge in ensuring their future retirement incomes will be adequate. This is due to factors such as delayed labour market entry, low pension coverage in the workplace, non-standard work arrangements, and having many jobs over the course of a career where pension plans may not be available.

Inadequate retirement incomes among future retirees will occur at a time when the population is aging and labour force growth is projected to slow. Taken together, these trends could create more pressure on programs directed at seniors, and an even greater transfer of resources from the younger, working-age population. Additional transfer of resources from the working-age population to retirees could, in turn, negatively affect productivity-enhancing investments and economic growth.

Adequate personal savings, efficient investments and better access to pension plans will enable Ontarians to be prepared financially for their retirement future. To help ensure better retirement income security for future retirees, the government is taking steps to strengthen the retirement income system for all Ontarians.



## **The Extent of the Retirement Savings Problem**

Research by a range of public policy institutes and governments suggests that a significant number of working-age households are not saving enough to ensure that they will have sufficient income to maintain their standard of living after they retire.

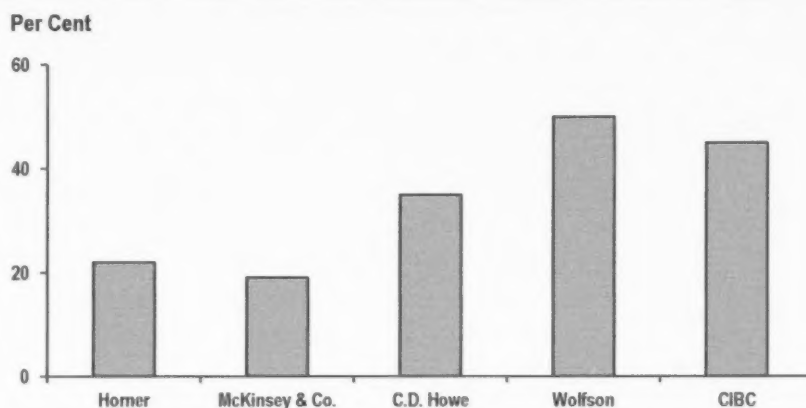
Retirees can usually maintain their standard of living with less income than they had during their working years because their living costs, such as mortgages, children's education and work-related expenses, tend to fall. Also, there is no longer a need to save for retirement. This is why many retirement experts recommend that people aim to replace 50 to 70 per cent of their pre-retirement earnings to maintain a similar living standard.

Determining whether people are saving enough to meet these suggested targets is complex. There are data on contributions to registered retirement savings plans (RRSPs) as well as on pension plan coverage. However, there is only limited information on the assets and investments that people will use to generate income in retirement and on their household debt. Projecting whether households will have adequate savings in the future requires assumptions about future earnings, savings behaviour, debt accumulation and repayment, investment returns and longevity.

A range of studies have found that approximately 20 to 50 per cent of households are expected to have insufficient income replacement to maintain a similar standard of living in retirement, even after potential income from home equity is taken into account (see Chart 6.1). While people are adaptable, a significant decline in post-retirement living standard has the potential to place considerable strain on individuals and their families, the Ontario economy and the Province's finances.

### Retirement Savings Gap by Study — Selected Results Percentage of Households Undersaving

CHART 6.1



*Notes:* The methodology and assumptions (e.g., definition and level of target replacement rates, potential sources of retirement income, age cohorts) in each study significantly influence the results. Each study also presents results for different age groups and income groups. The results shown in the chart have been selected by the Ontario Ministry of Finance as representative of each study's overall findings.

*Sources:* K. Horner, "Retirement Saving by Canadian Households," (2009) — about 22 per cent of households age 30 to 64 are undersaving; McKinsey & Company, "Are Canadians Ready for Retirement?" (2012) — about 19 per cent of households are undersaving; K. D. Moore, W. Robson and A. Laurin, C.D. Howe Institute, "Canada's Looming Retirement Challenge," (2010) — about 35 per cent of the 2031 to 2035 retirement cohort are undersaving; M. C. Wolfson, "Projecting the Adequacy of Canadians' Retirement Incomes," (2011) — about half of mid-level earners born before 1970 are undersaving, and CIBC, "Canadians' Retirement Future: Mind the Gap," (2013) — about 45 per cent of the 1965 to 1969 birth cohort are undersaving.

The findings of these studies are consistent with analysis by the Ontario Ministry of Finance that suggests that, overall, more than 35 per cent of households will not have sufficient savings to maintain similar living standards throughout their retirement years.

Many people are able to sell their home — or "downsize" — to help finance their retirement. However, owning a home does not necessarily prevent a standard-of-living drop in retirement. Most of the research on retirement savings cited in Chart 6.1, and analysis by the Ministry of Finance, factors in home equity as a potential source of retirement income. The studies and analysis conclude that a significant share of households is undersaving, even with home equity taken into account.

## **Factors that Contribute to the Savings Problem**

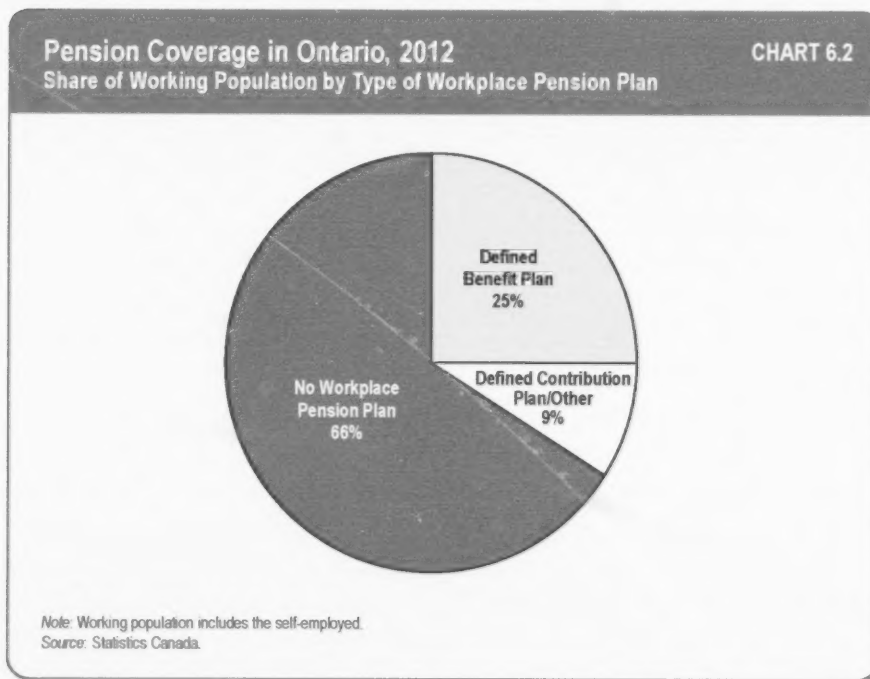
The retirement savings problem is rooted in several economic and demographic factors, the most significant of which are:

- Most people do not have a workplace pension;
- Contributions to voluntary savings are lacking, and consistent investment returns are hard to achieve;
- Existing Canada Pension Plan retirement benefits are inadequate; and
- People are living longer.

## Most People Do Not Have a Workplace Pension

Workplace pension plans have traditionally been an important part of retirement income for many Ontarians. Many plans have faced funding shortfalls in recent years, in part due to persistently low long-term interest rates, poor investment returns and demographic pressures. Some employers are following a global trend to switch from defined benefit to defined contribution plans<sup>1</sup> in an effort to obtain certainty over pension costs.

Most workers in Ontario do not belong to a workplace pension plan, either because they are not offered one by their employer or because they are self-employed. As shown in Chart 6.2, only 34 per cent of Ontario's working population belonged to a workplace defined benefit or defined contribution pension plan in 2012; this is down from about 42 per cent in the early 1990s.<sup>2</sup>



<sup>1</sup> In a defined benefit plan, benefits at retirement are based on a predetermined formula incorporating average earnings and years of service. In a defined contribution plan, benefits at retirement are based on accumulated contributions and investment returns.

<sup>2</sup> When the self-employed are excluded from the calculation, the rate of pension coverage among employees was about 40 per cent in 2012, down from 49 per cent in the early 1990s.

## **Contributions to Voluntary Savings Are Lacking and Consistently Healthy Returns Are Hard to Achieve**

Since most Ontarians do not participate in a workplace pension plan, they must rely to a greater degree on personal savings through RRSPs and other savings or assets to supplement the benefits provided by federal Old Age Security (OAS) and the Canada Pension Plan (CPP).

Years of low interest rates and unpredictable financial market performance have contributed to lower accumulation of personal savings, lower returns on existing savings and higher personal debt levels, especially mortgage debt. For example, between 2002 and 2012, Canadian household mortgage debt as a share of personal disposable income rose from 68 per cent to 103 per cent.<sup>3</sup> Low interest rates may have also prompted many individuals to move long-term savings from low-risk financial products, such as guaranteed investment certificates (GICs), to riskier investments that offer the potential for greater rates of return but are subject to more volatility. For example, the 2008 market downturn had a negative impact on personal savings, which, by some estimates, took three years to recover.<sup>4</sup> This was especially difficult for those who had just retired or were near retirement at that time.

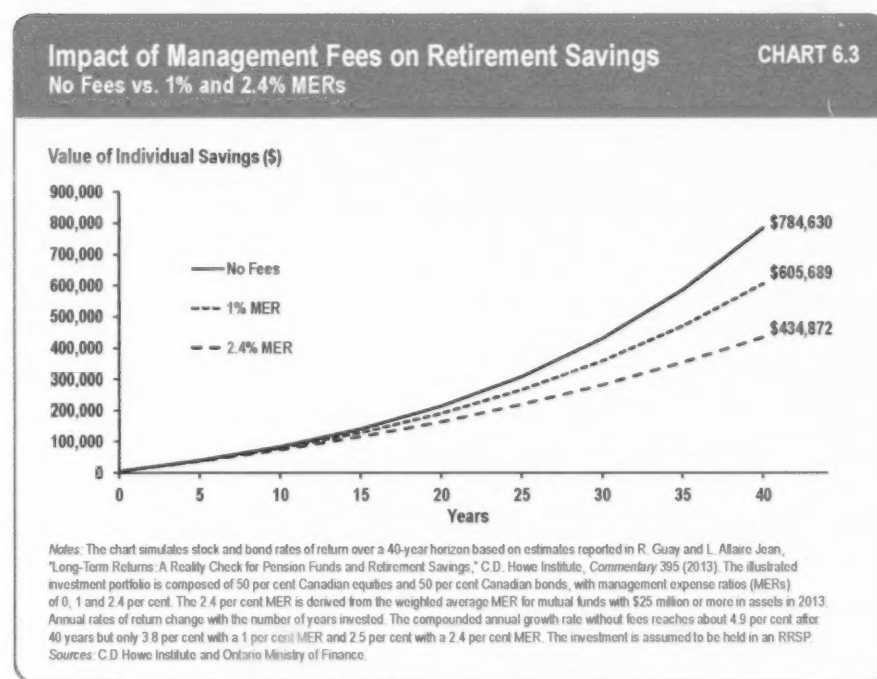
These factors may have also contributed to workers not making full use of the retirement savings vehicles available to them. In 2011, there was about \$680 billion in unused RRSP room in Canada, including \$260 billion in Ontario alone.

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<sup>3</sup> Statistics Canada, "National Balance Sheet Accounts."

<sup>4</sup> Certified General Accountants, "Money Talks: Emphasizing Wealth in Household Finances," (2013), 17.

For those who do manage to save consistently, traditional investment vehicles like mutual funds can involve high management fees. These fees can significantly erode savings growth, regardless of the real rate of return on the investments. Chart 6.3 illustrates how management fees affect retirement savings over time for an individual making annual contributions of \$6,000 to an RRSP. Compared to the potential savings portfolio value in the absence of fees, management fees of 2.4 per cent over the 40-year period could reduce the potential portfolio value by more than 44 per cent. However, if fees were low (1 per cent), the potential portfolio value would be reduced by less than 25 per cent over that same period.



Building an effective and efficient retirement savings plan requires time and a certain amount of expertise to achieve consistent and adequate growth over many years. The high degree of choice in savings instruments, vehicles, approaches and management expense ratios can be confusing, even for those with knowledge of investing.

Some experts expect that future investments will not achieve the high rates of return that have been experienced historically.<sup>5</sup> This presents challenges for investors in achieving sufficient returns to meet long-term savings objectives without taking on increased risk. Lower future returns also make efforts to lower investment fees and to increase transparency around the impact of fees on long-term returns even more important.

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<sup>5</sup> R. Guay and L. Allaire Jean, "Long-Term Returns: A Reality Check for Pension Funds and Retirement Savings," C.D. Howe Institute, *Commentary* 395 (2013).



## Existing Canada Pension Plan Benefits Are Inadequate

Canada currently has one of the lowest seniors' poverty rates according to the Organisation for Economic Co-operation and Development (OECD).

This is largely due to universal retirement income programs, namely federal OAS and the Guaranteed Income Supplement (GIS), plus provincial top-up programs, such as the Ontario Guaranteed Annual Income System (GAINS).

These programs effectively ensure that eligible seniors have an income floor in retirement and ensure that those who have lower earnings during their working years have a high level of income replacement in retirement. The OECD finds that low earners in Canada have an income replacement rate of about 80 per cent in retirement, compared with an average replacement rate of 71 per cent for low earners across all OECD countries.<sup>6</sup>

But Canada's retirement benefit programs do not, and were never intended to, provide sufficient income replacement for those with middle or higher earnings. This means that most Canadian seniors must rely on other sources of income for their retirement. For example, according to the OECD, the share of seniors' total income provided by public pensions or income security programs is only about 40 per cent in Canada, compared to an average of almost 60 per cent across the OECD.

The limited income provided by public retirement benefits is primarily due to the modest nature of the CPP. The CPP replaces only 25 per cent of career average pensionable earnings, and workers cannot contribute on earnings above \$52,500 (2014). These limits mean that the current maximum CPP benefit is only about \$12,500 per year. The average CPP annual benefit paid out is far below that, at about \$6,400 in Canada and \$6,800 in Ontario.<sup>7</sup>

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<sup>6</sup> OECD, "Pensions at a Glance 2013: Canada," (2013), 2.

<sup>7</sup> Employment and Social Development Canada. Reflects CPP average benefit payment as of November 2013.

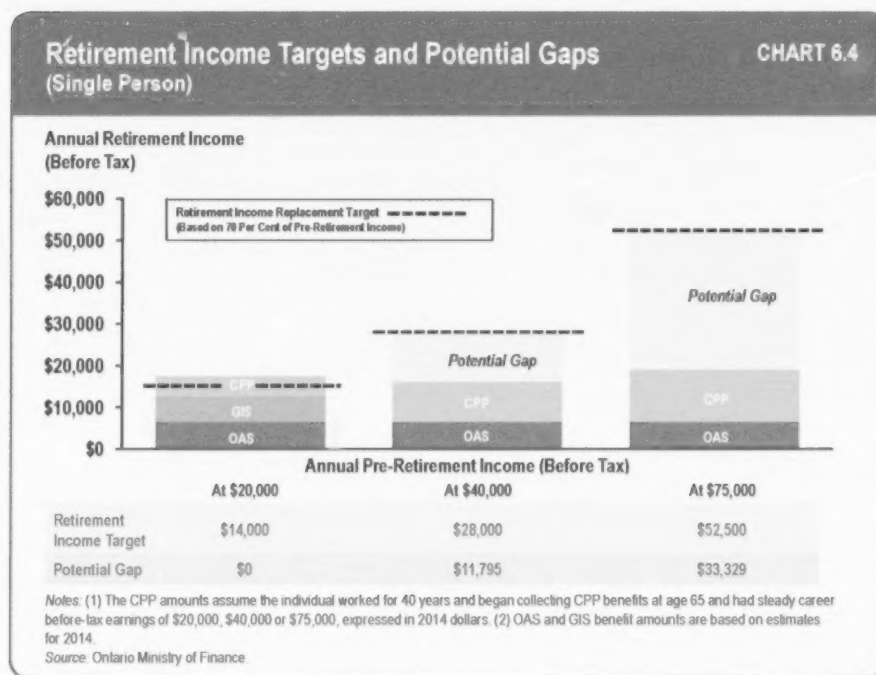
The large difference between the maximum CPP benefit and the average benefit occurs for two reasons. First, many workers opt to take their CPP benefits before the normal retirement age of 65. In this situation, the level of the CPP benefit is reduced to reflect the additional years that the benefit payments will be made. Another reason for lower benefit payments is that CPP benefits are based on a worker's earnings over his or her whole career. Earnings can vary widely over the course of a working life, particularly at the beginning and end of a career. The \$52,500 cap on CPP pensionable earnings (2014) means that many people are unable to make up for years of lower earnings in years when their earnings are higher.

The current parameters of the CPP make Canada's publicly administered retirement benefits very modest. For example, Social Security in the United States has an earnings ceiling of \$117,000 (2014) and an average income replacement rate of about 40 per cent.<sup>8</sup> Average Social Security benefits in the United States were about \$15,200 in 2013, while the maximum benefit was \$30,400. This compares with retired workers in Ontario who, on average, received about \$13,000 in 2013 from OAS and CPP combined. The maximum benefit from OAS and CPP combined is about \$19,000.

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<sup>8</sup> U.S. Social Security Administration website.

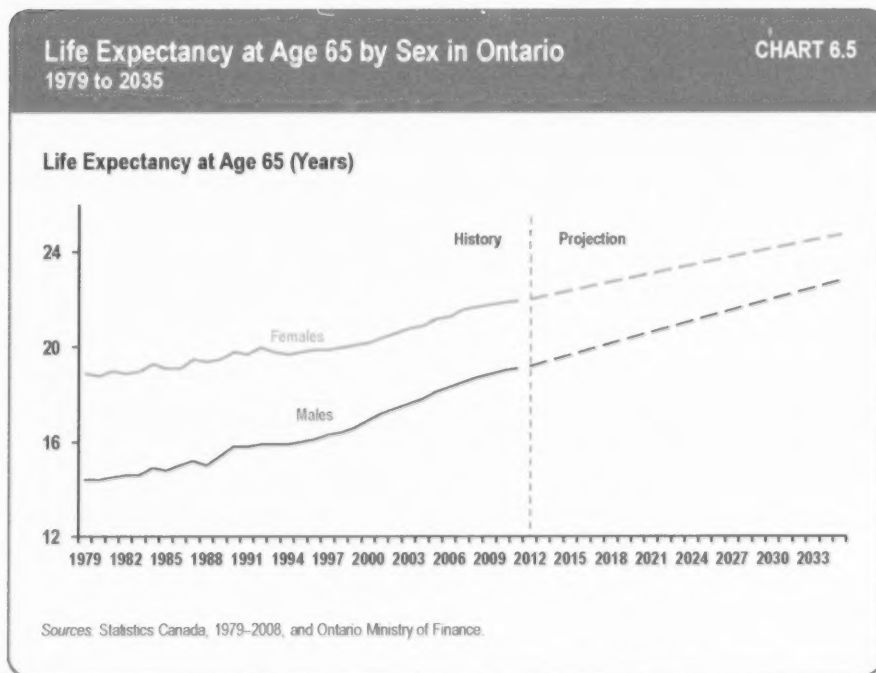
Because the CPP is so modest, most earners must supplement their retirement incomes through other savings, such as workplace pension plans and personal savings. For example, as shown in Chart 6.4, individuals with incomes of \$40,000 or \$75,000 have significant gaps to fill if they are to reach a 70 per cent earnings replacement target.



## People Are Living Longer

Life expectancy at age 65 has increased significantly. This has put pressure on pension plans and personal savings to provide retirees with adequate income throughout retirement.

As shown in Chart 6.5, Ontario men at age 65 can currently expect to live another 19 years. It is projected that, by 2035, Ontario men aged 65 will have, on average, 23 more years to live. For Ontario women aged 65, life expectancy is currently 22 more years and is projected to rise to 25 years by 2035. While these projections are averages, a significant portion of future retirees will live well beyond the average.



Increasing longevity in the future means that people will need to accumulate even more savings during their working years to finance additional years of retirement.

## **Who Is Most Likely to Have Inadequate Retirement Savings?**

Middle-income earners and younger workers have been identified as being more vulnerable to undersaving.

### **Middle-Income Earners**

Middle-income earners represent a substantial share of workers in Ontario. For example, in 2011, about 46 per cent of all workers in Ontario had total incomes between \$25,000 and \$75,000.<sup>9</sup> These workers are likely having the most trouble saving enough to ensure adequate future retirement income.

### **Workplace Pension Coverage**

The absence of a workplace pension plan tends to leave those with middle incomes particularly vulnerable to inadequate retirement savings.<sup>10</sup>

Middle-income earners are less likely to belong to a workplace pension plan than those with higher incomes. Also, pension coverage in the private sector — where most middle-income earners are employed — tends to be lower.

For example, in 2011, only about one-quarter of private-sector workers with earnings between \$25,000 and \$50,000, and only about 45 per cent of private-sector workers with earnings between \$50,000 and \$75,000, made a contribution to a workplace pension plan or had a contribution made on their behalf. Pension coverage has also declined over time for both groups.

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<sup>9</sup> Includes tax filers between the ages of 15 and 65 with earnings from employment and/or self-employment.

<sup>10</sup> Analysis by the Ontario Ministry of Finance suggests that middle-income households with no workplace pension coverage are much more likely than those with pensions to experience a decline in living standards once they retire.

### **Personal Retirement Savings**

Middle-income earners, particularly those without workplace pension coverage, need to have a consistent approach to saving to ensure they accumulate enough wealth to provide for retirement.

However, most middle-income earners do not make contributions to RRSPs and those who do may not save enough. In 2011, only about one-third of Ontario private- and public-sector workers, including the self-employed, with incomes between \$25,000 and \$50,000 made an RRSP contribution. These contributors made an average contribution of \$2,700. In the same year, about half of workers with incomes between \$50,000 and \$75,000 contributed to an RRSP, with average contributions of about \$4,300. The average RRSP contribution of workers in both income groups has declined in recent years.

Middle-income workers who do not have access to workplace pension plans must rely on personal retirement savings. However, in 2011, nearly two-fifths of Ontario workers with incomes between \$25,000 and \$75,000 had neither contributions to a workplace pension plan, nor to an RRSP.

Many middle-income earners may also be heading into retirement with lingering debt or while financially supporting adult children who are participating in postsecondary education or transitioning to employment. These ongoing obligations will make it more difficult for middle-income earners to prepare effectively for retirement.

### **Younger Workers**

Most of the studies on retirement savings cited earlier in the chapter (see Chart 6.1) find that today's younger workers are at particular risk of undersaving compared with previous cohorts at the same age. Several economic and social factors have led to different career trajectories for younger workers. These factors are contributing to this group likely being less financially prepared for eventual retirement.

The overall labour force participation rate of Ontario's youth aged 15 to 24 has declined since the late 1980s, falling to an all-time low of 60.1 per cent in 2012 before edging up in 2013. One reason for this is that younger adults are spending more time pursuing postsecondary education. While this helps improve long-term incomes, it also means delayed entry into the labour market and potentially more student loan debt.

Also, recent economic conditions have led to higher youth unemployment rates. In 2013, the youth unemployment rate in Ontario stood at 16.1 per cent, up from 13.0 per cent in 2007. This has further delayed entry into the labour market for many recent graduates.

Once employed, younger workers experience lower pay and are less likely to have access to defined benefit workplace pension plans than were their older counterparts in the same type of employment.<sup>11</sup> It is also anticipated that today's younger workers will change jobs more frequently and have less standard work arrangements (e.g., contract or temporary).

These factors — later entry into the labour market, many employers during a career, limited access to pension plans, inconsistent or interrupted earnings — will make it more difficult for younger workers to accumulate adequate savings to fund their future retirement under the current retirement income system.

### **Other Risk Groups**

Analysis conducted by the Ontario Ministry of Finance shows that — aside from middle-income earners and younger workers — renters, homeowners with an outstanding mortgage, single parents, recent immigrants and those with lower levels of educational attainment are at a greater risk of having insufficient savings compared to other families with similar income levels.

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<sup>11</sup> P. Gougeon, "Shifting Pensions," *Perspectives*, Statistics Canada, (May 2009).



## **Inadequate Retirement Savings and the Demographic Shift**

Ontario is entering a period of accelerated population aging and slower labour force growth. It is projected that, by 2035, Ontario's working-age population (age 15 to 64) will account for 60.5 per cent of the population, down from 68.6 per cent in 2013. This could contribute to a slower rate of real gross domestic product (GDP) growth in Ontario in the future.

## **Future Retirement Incomes and Government Spending**

Today, seniors account for 15 per cent of Ontario's population; by 2035, that share is expected to have risen to 23.8 per cent. Population aging and slow labour force growth have implications for a number of areas of government expenditure, such as seniors' benefits and health care.

Health care and other costs associated with population aging will likely accelerate in the 2020s as baby boomers enter their seventies in large numbers. At the same time, those without sufficient income from pensions or personal savings will be forced to rely to a greater degree on government programs and services. This would compound the pressure on government spending.

Inadequate retirement savings will put pressures on federal and provincial resources. Specifically, there could be even higher expenditures on seniors' benefits, such as the federal OAS and GIS, Ontario's GAINS programs, as well as services such as long-term care, and community and social services, all primarily funded by the Province.

## **Intergenerational Equity**

Population aging and slow labour force growth over the next few decades, combined with potentially lower incomes among retirees, would likely have a negative impact on the distribution of wealth and income between generations.

If a significant portion of future retirees do not have adequate incomes, younger cohorts will bear the cost burden, either through higher taxes to support programs for seniors or through direct financial support of older family members. A decline in living standards for older members of society has the potential to put overall downward pressure on the living standards of the working population.

## **Income Inequality**

Inadequate retirement savings today could also work to increase long-term income inequality. As discussed previously, middle-income earners are facing the greatest risk of undersaving for retirement, and the risk appears to be growing over time. Inadequate saving could lead to a drop in living standards for many middle-income earners in retirement, pushing some into low-income categories.

By contrast, high-income earners are better able to accumulate assets and are generally able to devote more resources to retirement saving and planning. This means that their likelihood of accumulating significant wealth over the longer term is much greater than that of middle-income earners.

A greater divergence in future retirement incomes could mean worsening income inequality among seniors.

## **Increasing Retirement Savings Would Have Positive Economic Benefits**

In addition to ensuring that future retirees have sufficient income, improving retirement savings now would have important long-term economic benefits.

The public debate surrounding retirement readiness has often focused on concerns about the short-term impact of higher mandatory savings on the economy. For example, some have opposed an enhancement to the CPP because they are concerned about the shared responsibility of employers in this program, especially when some businesses are facing challenging economic conditions. There is also concern about the potential impact on jobs and the economy resulting from increased CPP contributions.

However, a notice period and an adequate phase-in of the enhanced contribution rate would moderate any immediate negative effect on the economy by giving businesses and workers time to adjust. Also, monetary policy may further offset any short-term negative effects.

Over the longer term, higher retirement savings would have a positive impact on the Ontario and national economies. Higher retirement savings by households would lead to an increase in the national saving rate, thereby contributing to higher investment and stronger economic growth over the long term.<sup>12</sup>

More savings among households now would mean more capital being available for investment, such as in machinery, equipment and infrastructure. Increased investment would result in higher productivity, leading to stronger economic growth and job creation. In turn, this would contribute to higher living standards in Ontario for both the working population and retirees.

Greater retirement savings could also help rebalance household investment towards financial assets (such as those owned by pension plans) and away from residential housing.

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<sup>12</sup> Evidence over the past several decades for advanced economies suggests that higher domestic saving rates are highly correlated with domestic investment rates. See forthcoming: D. Dodge and R. Dion, "Macroeconomic Aspects of Retirement Savings," (Spring 2014).

Higher savings today would also mean greater incomes and consumption in the future, resulting in a higher quality of life for future retirees and less reliance on government programs and services. Also, more wealth in the hands of future seniors would help families and the Ontario economy better cope with population aging. This could help avoid the need for higher taxes on future workers and reduce the need for intergenerational transfers from workers to retirees.

As described previously, the size of the labour force relative to the population is expected to shrink over the coming decades. The longer today's workers delay saving more and building up wealth for the future, the greater the challenge will be for the government and all Ontarians.

## **Improving Retirement Preparedness**

Efforts to improve retirement savings should be accompanied by policies that encourage better labour market outcomes, as they also have a positive effect on overall savings and retirement preparedness.

## **Financial Literacy**

Planning well for retirement usually means a long-term, consistent approach to saving that can be difficult to maintain. The challenge is much greater for those who do not have access to a workplace pension plan and must rely on their own savings to carry them through retirement.

The retail market aimed at retirement savings is large, with many service providers, products and strategies from which to choose. Individual investors must be able to effectively navigate the options and have a firm grasp of how various factors (e.g., transaction costs, management fees and taxation) impact their overall long-term rate of return. Those with higher incomes can obtain advice from professionals to assist with long-term planning. But many people lack the resources for this and must rely on their own judgment or recommendations from the media.

Better financial literacy at younger ages, including an understanding of budgeting, long-term approaches to savings, and the impact of taxes and fees on accumulated savings, would help people plan better for retirement and ensure more consistent household saving over the long term.

To help individuals make informed savings and investment choices, the Ontario government is promoting financial literacy through organizations such as the Financial Services Commission of Ontario, the Ontario Securities Commission (OSC) and the Investor Education Fund (IEF), a non-profit organization established by the OSC.

The IEF website has the most popular financial education material of its kind in Canada. Its consumer-focused content provides unique tools that give Ontario investors the information they need to make better decisions about retirement, education savings, investing, fees and debt repayments.

## **Transitioning into Retirement**

Increasing lifespans and better health at older ages mean opportunities for greater labour force participation among older workers if they so choose. Working longer provides households with earnings for more years, alleviating some of the need for retirement savings.

There is evidence that many seniors are choosing to stay in the workforce longer. The average age of retirement in Ontario has increased over the last decade by about three years from age 61 in 2002 to age 64 in 2013. Also, between 1998 and 2013, the labour force participation rate of those aged 65 to 69 has more than doubled from 12.5 to 27 per cent.<sup>13</sup>

Policies that would help older workers remain in the labour force voluntarily for longer periods include a gradual reduction of work time while still accruing pension benefits; more flexible work schedules, such as more part-time options; more investment by employers in lifelong learning; and promoting the health and well-being of all workers in the workplace.

## **Youth Employment**

Better employment opportunities for young workers would help facilitate better and more consistent retirement savings over the course of a career, either through access to workplace pension plans or greater contributions to voluntary savings vehicles such as RRSPs. Better employment opportunities at earlier ages may also lead to higher CPP benefits in retirement.

The Province is investing in initiatives, such as the Youth Jobs Strategy, to create better job opportunities for younger workers.

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<sup>13</sup> Statistics Canada.

## Ontario's Approach to Improving Retirement Income Security

Ontario is committed to enhancing and improving retirement income security so that today's workers are better prepared for the retirement phase of their lives.

The *2013 Ontario Economic Outlook and Fiscal Review* announced a three-pronged strategy to strengthen the retirement income system for Ontarians without workplace pension plans, Ontarians with self-directed retirement savings, and Ontarians with defined benefit pension plans.

For Ontarians without workplace pension plans, the government is committed to developing innovative pension models to promote increased retirement savings. For Ontarians with self-directed retirement savings, Ontario is working to improve the efficiency and stability of capital markets to help investors work towards their financial goals and to provide the tools to encourage informed decision-making about financial savings. The government is also continuing to work with employers and employees to enhance the sustainability of defined benefit pension plans.

Part of the government's strategy for Ontarians without workplace pension plans also included a strong commitment to securing agreement among provinces and the federal government to enhance the CPP.

The CPP is an efficient and effective mandatory public pension program, with contributions shared equally by employers and employees. It provides Canadians with a secure pension that is predictable, indexed to inflation and paid for life. It also provides survivor benefits.

Because the CPP is fully portable, it allows workers who change jobs frequently (e.g., younger workers) to have ongoing pension coverage. It also supports a gradual transition to retirement by allowing older workers to claim benefits while continuing to work and accruing further benefits. And it covers virtually all types of employment, including self-employment. These features mean that the CPP, by design, supports a modern and mobile labour force.



However, the modest nature of the CPP prevents it from providing effective income replacement in retirement, especially for middle-income earners who rely on it most. Enhancing the CPP is one of the most effective ways to ensure workers, and especially middle-income earners, have more adequate retirement income.

At this time, it appears unlikely that an agreement to enhance the CPP can be reached. But Ontario remains committed to improving the retirement income security of workers. Therefore, the Province is moving ahead with a made-in-Ontario plan. Ontario is committed to helping workers, particularly middle-income earners, maintain a comparable standard of living when they retire.

With input from former Prime Minister Paul Martin, leading pension experts, and participants from other provinces, the Province is currently examining the possible structure, feasibility, costs and benefits of a made-in-Ontario plan.

## CHART DESCRIPTIONS

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### **Chart 1.1: Growth Rate of Ontario's Population, 1971–2035**

This bar chart shows the past and projected annual growth rate of Ontario's population from 1971 to 2035. Past population growth rates were higher than what is projected. Over the 1971–2013 period, the average annual population growth rate was 1.3 per cent. This is higher than the average annual population growth rate of 1.1 per cent projected from 2013 to 2035.

[Return to Chart 1.1](#)

### **Chart 1.2: Net Interprovincial Migration to Ontario, 1971–2013**

This bar chart shows the annual net interprovincial migration to Ontario from 1971 to 2013. Numerous years of gains are usually followed by numerous years of losses, following the business cycle in Ontario. After a period of annual net gains from 1996 to 2003, when Ontario gained a total of 75,000 interprovincial migrants, the net flows have turned negative. Over the last decade, Ontario lost 127,000 people through interprovincial migration.

[Return to Chart 1.2](#)

### **Chart 1.3: Contribution of Natural Increase and Net Migration to Ontario's Population Growth, 1971–2035**

This area chart shows the annual contribution of natural increase and net migration to total population growth in Ontario from 1971 to 2013, and projections to 2036. Ontario's population used to grow mostly from natural increase in the 1970s. However, natural increase now accounts for only 39 per cent of total population growth, and its share is projected to fall to 21 per cent by 2035.

[Return to Chart 1.3](#)

#### **Chart 1.4: Baby Boomers Passing through the Ontario Age Structure, 1965–2035**

This chart shows age pyramids of Ontario's population by age group, highlighting the baby boom generation. In 1965, baby boomers were in school. In 1985, they were young adults. In 2005, they were older workers. In 2015, they will be young retirees and, by 2035, they will be older seniors.

[Return to Chart 1.4](#)

#### **Chart 1.5: Age Distribution of Ontario's Population, 1975–2035**

This chart shows the age distribution of Ontario's population for broad age groups in 1975, 1995, 2015 and 2035. In 1975, 25.6 per cent of Ontarians were children aged 0–14, 65.7 per cent were of working age (15–64), and 8.7 per cent were seniors (65+). In 2015, children will account for 20.4 per cent of Ontario's total population, the working-age group will represent 68.2 per cent of the total, and seniors 15.8 per cent. By 2035, 15.7 per cent of Ontarians will be children aged 0–14, 60.5 per cent will be of working age, and 23.8 per cent will be seniors.

[Return to Chart 1.5](#)

#### **Chart 1.6: Share of Population Aged 65 and Over, Ontario and Selected Countries, 2012**

This chart shows the 2012 share of population aged 65+ in selected countries. The highest shares of seniors displayed are for Japan at 24.4 per cent and Germany at 21.1 per cent. The lowest shares shown are for Mexico at 6.3 per cent and Brazil at 7.3 per cent. Ontario was at 14.7 per cent, while Canada was at 14.8 per cent.

[Return to Chart 1.6](#)

#### **Chart 1.7: Growth Rate of the Core Working-Age Population in Ontario, 1971–2035**

This bar chart shows the annual growth rate of the core working-age population in Ontario (ages 15–64) from 1971 to 2035. It shows how dramatically lower future growth rates are projected to be. The average annual growth rate of Ontario's core working-age population was 1.5 per cent over the 1971–2013 period. It is projected to average only 0.5 per cent from 2013 to 2035.

[Return to Chart 1.7](#)

### **Chart 1.8: Labour Force Participation Rates, 25–54 and 55–64 Age Groups, Ontario, 1976–2035**

This line chart shows the annual labour force participation rates of men and women aged 25–54 and 55–64 in Ontario from 1976 to 2035. For men aged 25–54, labour force participation declined gradually from 96 per cent in 1976 to 91 per cent in 2013 and is projected to remain relatively constant to 2035. For women aged 25–54, labour force participation rose rapidly from 57 per cent in 1976 to 79 per cent in 1990, then kept increasing gradually to reach 82 per cent in 2013, and is projected to continue doing so until 2035 to reach 89 per cent. For men aged 55–64, labour force participation declined rapidly from 79 per cent in 1976 to a low of 59 per cent in 1995. Subsequently, their participation rate increased to reach 70 per cent in 2013, and is projected to be relatively constant to 2035. For women aged 55–64, labour force participation rose very slowly from 37 per cent in 1976 to 45 per cent in 2000, and then increased rapidly to reach 61 per cent in 2013. Their participation rate is projected to keep increasing to reach 66 per cent in 2035.

[Return to Chart 1.8](#)

### **Chart 1.9: Labour Force Participation Rates of Youth in Ontario, 1976–2035**

This line chart shows the annual labour force participation rates of men and women aged 15 to 24 in Ontario from 1976 to 2035. Young men's participation rate rose from 69 per cent in 1976 to 77 per cent in 1989, followed by a decline to reach 61 per cent in 2013. Similarly, young women's participation rate rose from 62 per cent in 1976 to 73 per cent in 1988, followed by a decline to reach 60 per cent in 2013. Labour force participation of youth of both genders is projected to increase gradually to reach 67 per cent by 2035.

[Return to Chart 1.9](#)

#### **Chart 1.10: Labour Force Participation Rates of Seniors in Ontario, 1976–2035**

This line chart shows the annual labour force participation rates of men and women aged 65+ in Ontario from 1976 to 2035. Senior men's participation declined from 17 per cent in 1976 to a low of 9.6 per cent in 1993 and 1996, rising thereafter to a high of 18 per cent in 2013. Senior women's participation remained below 5 per cent from 1976 to about 2000, and then increased fairly rapidly to reach 10 per cent in 2013. Labour force participation of seniors of both genders is projected to keep increasing from 2013 to 2035, reaching 12 per cent for women and 19 per cent for men.

[Return to Chart 1.10](#)

#### **Chart 1.11: Population of the Greater Toronto Area, 1976–2035**

This bar chart shows the total population of the Greater Toronto Area from 1976 to 2035. The GTA had a population of 3.2 million in 1976, which grew to 6.4 million by 2013. It is projected to reach 8.8 million by 2035.

[Return to Chart 1.11](#)

#### **Chart 1.12: Labour Force Participation Rates by Age Group, Ontario, 1989 and 2013**

This line chart shows superimposed labour force participation rates by age groups for 1989 and 2013 in Ontario. It shows that in 1989 Ontarians under the age of 30 had higher participation rates than they do in 2013. Participation in the labour force is about the same at ages 30 to 49. Participation rates are higher in 2013 compared to 1989 for all age groups above age 50.

[Return to Chart 1.12](#)

### **Chart 2.1: Projected Real GDP Growth: 2014 to 2035**

This map of the globe chart shows average annual projected real gross domestic product growth rates for selected countries between 2014 and 2035. The growth rates are as follows: World 3.1%, Canada 2.2%, United States 2.4%, Ontario 2.1%, Mexico 3.1%, Brazil 3.1%, Argentina 2.5%, European Union 1.6%, Germany 1.2%, United Kingdom 2.4%, France 1.3%, Italy 0.8%, Turkey 4.0%, South Africa 3.0%, Saudi Arabia 3.5%, Russia 2.8%, India 5.5%, China 6.5%, Japan 0.7%, South Korea 2.7%, Indonesia 5.2%, Australia 2.5%.

[Return to Chart 2.1](#)

### **Chart 2.2: U.S. Real GDP**

This line chart shows the reference case projection for U.S. real gross domestic product between 2001 and 2035 as well as a high and low scenario based on the average of *Blue Chip Economic Indicators'* bottom and top 10% long-term forecasters. Between 1982 and 2013, U.S. real gross domestic product grew by 2.8%. Over the 2014 to 2035 period, U.S. real gross domestic product is projected to grow by 2.4% annually in the reference case, 2.8% in the high scenario and 2.0% in the low scenario.

[Return to Chart 2.2](#)

### **Chart 2.3: Proportion of Global GDP**

Two pie charts compare selected countries' real gross domestic product shares of world output in PPP exchange rate adjusted dollars in 2013 and 2035. In 2013, the real share of world gross domestic product was 19% for the United States, 15% for China, 6% for India, 5% for Japan, 13% for the Eurozone and 41% for other countries. In 2035, the real share of world gross domestic product is expected to be 15% for the United States, 27% for China, 9% for India, 3% for Japan, 8% for the Eurozone and 39% for other countries.

[Return to Chart 2.3](#)

#### **Chart 2.4: Bank of Canada Commodity Price Index**

This stacked line graph shows the relative value shares of crude oil, natural gas, metals, agriculture, forestry and other goods in Canadian commodity production. Since 1972, the share of total Canadian commodity production of crude oil increased from 13% to 50%, natural gas increased from 3% to 9%, metals declined from 21% to 15%, agriculture declined from 30% to 14%, forestry declined from 30% to 9%, and other commodities held steady at 3%.

[Return to Chart 2.4](#)

#### **Chart 2.5: Global Central Bank Policy Interest Rates**

This line chart compares global central bank policy interest rates for Canada, Japan, the United States and the Eurozone. All four central banks have lowered their policy rates to historic lows in response to the 2008–09 global financial crisis. The Japanese central bank had already been maintaining an ultra-low policy interest rate since the late 1990s. Canada and the United States are expected to increase their policy interest rates fairly rapidly towards the end of this decade to about 4.5% and keep them at this level through 2035. The Eurozone is expected to take until 2023 for their rate to rise to 4.0%. Finally, Japan is expected to slowly raise its policy interest rate to 2.3% by 2021.

[Return to Chart 2.5](#)

#### **Chart 2.6: Canadian Dollar**

This line chart shows the Canadian-U.S. exchange rate expressed in cents US. The Canadian exchange rate has declined from about parity with the United States in 1972 to a low of 64 cents US in 2002 before rebounding to parity again in 2011. The Ministry of Finance forecasts the Canadian dollar exchange rate will fall to 91 cents US in 2014, rebounding to 94 cents US by 2017 and climbing to 99 cents US by 2035. A shaded region between 90 cents US and parity denotes the range in which the Ministry of Finance projects the dollar will remain.

[Return to Chart 2.6](#)



### **Chart 2.7: Ontario Labour Force Growth**

This bar chart shows average annual growth rates of Ontario's labour force between 1982 and 2035. Ontario's labour force grew on average 1.5% between 1982 and 2013. The Ontario Ministry of Finance projects Ontario's labour force will grow at an annual rate of 1.0% between 2014 and 2017, 0.9% between 2018 and 2022, 0.7% between 2023 and 2027, 0.8% between 2028 and 2032, and 1.0% between 2033 and 2035.

[Return to Chart 2.7](#)

### **Chart 2.8: Public Infrastructure Investment in Ontario — All Contributors**

This line chart shows total investment in public infrastructure in Ontario by all contributors as a percentage of GDP, from 1961 to 2012. Contributors include the federal, provincial and municipal governments, as well as broader public sector organizations. The line steadily declines from a high of 5.8% in 1963 to 3.0% in 1979. During the 1980s and 1990s, the line is mostly constant, fluctuating between 2.7% and 3.7%. A steady increase begins in 2001 to a peak of 5.4% in 2010, before settling at 4.8% in 2012.

[Return to Chart 2.8](#)

### **Chart 2.9: Growth in Ontario Real GDP: Supply Factors**

Growth in real gross domestic product is projected to slow from 2.6% per year between 1982 and 2013 to 2.1% per year between 2014 and 2035. Between these same time periods, average annual growth in source population is projected to slow from 1.6% to 1.1%, the average annual change in the participation rate is projected to decline from -0.1% to -0.2%, the average annual change in unemployment moves from -0.1% to 0.1% and the average annual growth in labour productivity is projected to slow from 1.2% to 1.1%.

[Return to Chart 2.9](#)

### **Chart 2.10: Ontario's Real GDP Growth**

Growth in real gross domestic product is projected to slow from 2.6% per year between 1982 and 2013 to 2.1% per year between 2014 and 2035. Between these same time periods, average annual growth in final consumption expenditure is projected to slow from 2.7% to 2.0%, the average annual change in gross fixed capital is projected to slow from 3.3% to 2.4%, and the average annual change in exports is projected to slow from 3.3% to 2.6%, and the average annual change in imports slowing from 4.0% to 2.4%.

[Return to Chart 2.10](#)

### **Chart 2.11: Ontario Real GDP Per Capita**

This line chart shows the level of Ontario real gross domestic product per capita between 1981 and 2035 in constant 2007 dollars. Real gross domestic product per capita grew from \$31,700 in 1981 to \$46,000 in 2013. The Ministry of Finance projects real gross domestic product per capita will further grow to \$57,600 by 2035.

[Return to Chart 2.11](#)

### **Chart 2.12: Ontario Employment**

This bar chart shows the level of employment and the unemployment rate in Ontario between 2008 and 2035. The level of employment in Ontario was 6,695 and the unemployment rate averaged 7.9% between 2008 and 2013. The Ministry of Finance projects the level of employment to grow to 7,113 between 2014 and 2017, 7,490 between 2018 and 2022, 7,825 between 2023 and 2027, 8,131 between 2028 and 2032, and 8,435 between 2033 and 2035. The Ministry of Finance projects the unemployment rate to average 6.7% between 2014 and 2017, 5.7% between 2018 and 2022, 5.3% between 2023 and 2027 and 5.1% between 2028 and 2035.

[Return to Chart 2.12](#)

### **Chart 2.13: Impact of High and Low Productivity Growth**

This line chart shows the impact of the high and low productivity scenarios on the level of Ontario real gross domestic product between 2007 and 2035. By 2035, Ontario's real gross domestic product is projected to be \$993 billion (2007 prices). Under the high-productivity scenario, real gross domestic product is expected to grow to \$1,071 billion (2007 prices) while under the low-productivity scenario, real gross domestic product would grow to \$920 billion (2007 prices).

[Return to Chart 2.13](#)

### **Chart 3.1: Service Sector's Share of Ontario Employment Increasing**

Line chart shows share of Ontario's employment in manufacturing, other goods, broader public sector, and private services between 1976 and 2013. Other goods includes agriculture, fishing, forestry, mining, utilities and construction. Broader public sector includes educational services, health care and social assistance, and public administration. Share of employment in manufacturing has decreased from 23.2 per cent in 1976 to 11.3 per cent in 2013. Share of employment in other goods has decreased from 12.3 per cent in 1976 to 9.3 per cent in 2013. Share of employment in the broader public sector has increased from 21.5 per cent in 1976 to 24.4 per cent in 2013. Share of employment in private services has increased from 43.0 per cent in 1976 to 55.0 per cent in 2013.

[Return to Chart 3.1](#)

### **Chart 3.2: Service Sector's Share of Ontario GDP Increasing**

Line chart shows share of Ontario's GDP in manufacturing, other goods, broader public sector, and private services between 2002 and 2012. Other goods includes agriculture, fishing, forestry, mining, utilities and construction. Broader public sector includes educational services, health care and social assistance, and public administration. Share of GDP in manufacturing has decreased from 21.7 per cent in 2002 to 12.7 per cent in 2012. Share of employment in other goods has increased from 8.9 per cent in 2002 to 10.5 per cent in 2012. Share of employment in the broader public sector has increased from 15.5 per cent in 2002 to 20.7 per cent in 2012. Share of employment in private services has increased from 53.8 per cent in 2002 to 56.2 per cent in 2012.

[Return to Chart 3.2](#)

### **Chart 3.3: Manufacturing Sector's Declining Employment Share in Ontario Is Comparable to U.S. Change**

Line chart shows employment share in manufacturing sector for Ontario and the U.S. between 1976 and 2013. U.S. data are manufacturing as a share of total non-farm employment, while Ontario data are manufacturing as a share of total employment. Ontario's manufacturing employment share has declined from 23.2 per cent in 1976 to 11.3 per cent in 2013. U.S. manufacturing employment share has declined from 22.1 per cent in 1976 to 8.8 per cent in 2013.

[Return to Chart 3.3](#)

### **Chart 3.4: Manufacturing's Share of Total Employment, Selected OECD Countries and Ontario**

Bar chart shows 19 pairs of bars representing manufacturing's employment share in 2006 and 2012 for Ontario, the OECD average and Australia, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, South Korea, Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States. The bars for all the jurisdictions in 2012 are lower than the associated bar in 2006.

[Return to Chart 3.4](#)

### **Chart 3.5: Ontario's Exporters Losing Market Share in the United States**

Bar chart showing the decline in percentage of U.S. merchandise imports sourced from Ontario from 8.7 per cent in 2003 to 5.5 per cent in 2013.

[Return to Chart 3.5](#)

### **Chart 3.6: Ontario Expanding Goods Exports to New Markets**

Bar chart with four pairs of bars showing the share of Ontario goods exports going to four different regions in 2003 and 2013. The regions are the United States, the European Union, Fast-Growing Economies and the Rest of the World. The fast-growing economies include Argentina, Brazil, China, Hong Kong, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, South Korea and Turkey. Share of Ontario's goods exports to the United States declined from 91.5 per cent in 2003 to 78.4 per cent in 2013. Share of Ontario's goods exports to the European Union increased from 3.8 per cent in 2003 to 9.5 per cent in 2013. Share of Ontario's goods exports to fast-growing economies increased from 1.8 per cent in 2003 to 6.4 per cent in 2013. Share of Ontario's goods exports to the rest of the world increased from 2.9 per cent in 2003 to 5.7 per cent in 2013.

[Return to Chart 3.6](#)

### **Chart 3.7: Ontario's Science and Engineering (S&E) Workforce**

Line chart shows change in science and engineering (S&E) workforce compared to total employment between 1990 and 2013. Data are indexed with 1990 set to 100. S&E workforce has been growing faster than overall employment. By 2013, S&E employment had increased to 182.6, while total employment had only increased to 132.4.

[Return to Chart 3.7](#)

### **Chart 3.8: Financial and Business Services: Share of Ontario Employment**

Bar chart shows Ontario's employment share in financial services and business services in 1993 and 2013. In 1993, financial services accounted for 5.0 per cent and business services accounted for 7.8 per cent of employment. In 2013, financial services accounted for 5.6 per cent and business services accounted for 10.8 per cent of employment.

[Return to Chart 3.8](#)

### **Chart 3.9: Information and Communications Technology (ICT): Share of Ontario Employment**

Bar chart shows Ontario's employment share in Computer Software, Other ICT Services, and ICT Manufacturing in 1993 and 2013. In 1993, Computer Software accounted for 0.8 per cent, Other ICT Services accounted for 1.5 per cent and ICT Manufacturing accounted for 1.0 per cent of Ontario employment. In 2013, Computer Software accounted for 2.1 per cent, Other ICT Services accounted for 1.6 per cent and ICT Manufacturing accounted for 0.3 per cent of Ontario employment.

[Return to Chart 3.9](#)

### **Chart 3.10: Employment Growth in Ontario's Life Sciences Industries**

Bar chart shows employment level in Medical Devices, Scientific and Laboratory Equipment and Pharmaceuticals in 1993 and in 2013. The Medical Devices sector employed 13,768 workers in 1993 and 19,358 workers in 2013. The Scientific and Laboratory Equipment sector accounted for 41,250 workers in 1993 and 93,755 workers in 2013. The Pharmaceuticals sector employed 15,902 workers in 1993 and 26,977 workers in 2013.

[Return to Chart 3.10](#)

### **Chart 4.1: Own-Source Revenue to Nominal GDP, 1990–91 to 2034–35**

This chart shows the ratio of Ontario own-source revenue to GDP from 1990–91 to 2034–35. Own-source revenue is defined as total revenues less federal transfers. Ontario own-source revenue as a share of GDP has trended lower from a high of 15.6 per cent in 1999–2000 to 13.6 per cent in 2012–13. A modest downward trend is expected to continue over the next 20 years, with the ratio of own-source revenues to GDP edging lower to 12.4 per cent in 2034–35.

[Return to Chart 4.1](#)

#### **Chart 4.2: Ontario Government Program Spending, 2009–10 to 2012–13**

This chart shows the share of total program expense by sector for the period 2009–10 to 2012–13. For 2012–13, the largest expense is the Health Sector at \$47.6 billion, accounting for 42.4 per cent of total program expense. The remaining sectors of total program expense for 2012–13 include the Education and Training Sector at \$30.0 billion or 26.7 per cent; the Children's and Social Services Sector at \$13.7 billion or 12.2 per cent; and Other Government Expenditures at \$20.9 billion or 18.7 per cent.

*Note:* The Education and Training Sector excludes Teachers' Pension Plan. Teachers' Pension Plan expense is included in Other Government Expenditures.

[Return to Chart 4.2](#)

#### **Chart 4.3: Population Aged 65–74, 75–84 and 85+ in Ontario, 1971–2035**

This chart shows the number of seniors (i.e., individuals aged 65+) in Ontario by age group for the period 1971 to 2035, where numbers for 2014 to 2035 represent Ontario Ministry of Finance projections. In 1971, the total number of Ontario seniors was 0.7 million and accounted for 8.3 per cent of the province's overall population. By 2035, the total number of seniors is projected to grow to 4.1 million and account for 23.8 per cent of the population. Those aged 65 to 74 currently represent the largest share of all seniors in Ontario, making up 55.1 per cent of all seniors in 2013. That share, however, has been declining, and is projected to continue to decline as baby boomers transition into the 75 to 84 and 85+ age groups in the longer term.

[Return to Chart 4.3](#)



#### **Chart 4.4: Price Increases in Health Care — Ontario**

This chart shows the annual change in prices for both health care and the economy as a whole from 1982 to 2012. Since 2010, the annual change in prices for health care has been lower than for the economy as a whole. Since 1982, the annual change in prices for health care has generally been higher than the economy as a whole. Inflation tends to be a key driver of health care expenditure growth, with price changes historically higher in health care than in the rest of the economy due to the labour intensiveness of the sector.

[Return to Chart 4.4](#)

#### **Chart 4.5: Elementary, Secondary and Postsecondary Source Population, 1992 to 2035 — Ontario**

This chart shows the number of people in Ontario by age groupings normally associated with enrolment in specific levels of education, for the period 1992 to 2035. The chart includes three age groupings: elementary (ages 4–13), secondary (ages 14–17) and postsecondary (ages 18–24). Data for the period 1992 to 2013 represent actual estimates from Statistics Canada, while data for 2014 to 2035 represent Ontario Ministry of Finance projections. The number of Ontario children aged 4 to 17 has been declining since 2004, but is expected to grow from 2.1 million to 2.6 million from 2014 to 2035, with elementary school-aged children growing at a faster rate than secondary. The total number of Ontarians aged 18 to 24 has been on the rise since 1997, having increased from 1.0 million to 1.3 million in 2013. While in the near term population growth of this age group is expected to decline, the age group is expected to increase after 2020 by 137,700 by 2035.

[Return to Chart 4.5](#)

#### **Chart 4.6: Federal and Other Governments' Financial Positions**

This chart shows that based on the ratio of net debt to gross domestic product (GDP), the financial position of the federal government is projected to improve over time, whereas the financial position of provincial, local and aboriginal governments are projected to deteriorate over the same period of time. From 1991 to 2014, the federal government is expected to have a net-debt-to-GDP ratio higher than provinces. This relationship is projected to reverse starting in 2015 and widen over time. From 2015 to 2087, the difference between net-debt-to-GDP ratios between the federal and provincial governments increases, reflecting a progressively stronger fiscal position for the federal government and a deteriorating fiscal position for provinces.

[Return to Chart 4.6](#)

#### **Chart 4.7: Net Contribution to/(Benefit from) Equalization by Province in 2014–15**

This chart shows that in 2014–15, Ontario is the largest net contributor to the Equalization program. Ontario is followed by Alberta, British Columbia, Saskatchewan, and Newfoundland and Labrador. All other provinces receive more in Equalization payments than their taxpayers contribute through federal taxes.

[Return to Chart 4.7](#)

#### **Chart 5.1: Ontario Labour Productivity, Output and Hours Worked**

This line chart breaks down real gross domestic product growth for business sector into two parts: growth in hours worked and growth in labour productivity (defined as output per hour worked). The chart covers the period 1984–2011 indexed at 1984=100. Over this period, growth in hours worked has been the more important contributor to real GDP growth. In particular, (i) during the 1980s, hours worked tracked real GDP closely, implying weaker labour productivity growth; (ii) in the early 1990s, labour productivity increased steadily while hours worked declined, a reflection of job losses during 1991–93 recessions; (iii) during the latter half of 1990s, hours worked, labour productivity and real GDP all grew strongly; and (iv) over the past decade, while hours worked increased steadily, labour productivity has plateaued.

[Return to Chart 5.1](#)

### **Chart 5.2: Ontario Labour Productivity Compared with Advanced Economies**

This line chart compares Ontario's Total Economy labour productivity with selected advanced economies with an index of 1984=100. Labour productivity is estimated as real output per hour worked (in 2005 U.S. dollars at purchasing power parity). The chart includes Japan, G7, Germany, U.S., Canada and Ontario for the period 1984–2011.

Productivity growth in Canada and Ontario lagged that in other G7 countries over 1984–2011. Japan, Germany, and the G7 countries experienced higher productivity growth relative to the U.S, while Ontario and Canada lost considerable ground in productivity relative to their U.S. neighbour.

[Return to Chart 5.2](#)

### **Chart 5.3: Labour Productivity in Ontario, Canada and the United States**

This line chart compares labour productivity (i.e., real output per hour worked) for the business sector of Ontario, Canada and the United States. The period covers 1984–2011 with an index of 1984=100. The table shows average productivity growth during 1985–2000 and 2001–2011. Ontario and Canada have faced a widening productivity gap and declining productivity growth relative to the United States. In particular; (i) between 1985 and 2000, productivity growth averaged 1.3% annually in both Ontario and Canada compared to 2.1% in the U.S; and (ii) since 2001, the productivity gap has widened further, as productivity growth slowed to 0.4% in Ontario and 0.8% in Canada, while in the U.S. it picked up to 2.4% annually.

[Return to Chart 5.3](#)

### **Chart 5.4: Labour Productivity Growth in Ontario Sectors**

This bar chart shows business sector average annual per cent change for labour productivity (i.e., real output per hour worked) for two time periods: 1985–2000 and 2001–2011. It shows that Ontario has experienced a decline in productivity growth in a number of its important high-productivity sectors, notably manufacturing, utilities and mining, oil and gas.

[Return to Chart 5.4](#)

### **Chart 5.5: Labour Productivity Level by Sector in Ontario**

This horizontal bar chart shows level of labour productivity (i.e., real GDP per hour worked in 2002 dollars) for selected sectors in Ontario. The dark shaded bar is for 2000 and the light one is for 2011. The left column shows average annual per cent change in productivity and the right column percentage point change in nominal GDP shares. The high-productivity sectors (including utilities, mining, and manufacturing) have experienced notable declines in productivity growth during 2001–2011 (-0.4%, -6.0% and 0.2%, respectively) relative to 1.2%, 0.4% and 2.7% during 1985–2000, as shown in Chart 5.4. The size of Ontario's manufacturing sector relative to the overall economy has declined significantly from 2002 to 2011 (-9.3 percentage points).

[Return to Chart 5.5](#)

### **Chart 5.6: Labour Productivity Level by Manufacturing Sector in Ontario**

This horizontal bar chart shows level of labour productivity (i.e., real GDP per hour worked in 2002 dollars) for selected manufacturing sectors in Ontario. The dark shaded bar is for 2000 and the light one is for 2011. The left column shows average annual per cent change in productivity and the right column percentage point change in nominal GDP shares. The chart shows that the relative size of the very high-productivity transportation equipment and chemical industries saw marked declines (-3.7 and -0.9 percentage points) from 2002 to 2011.

[Return to Chart 5.6](#)

### **Chart 5.7: Ontario Has Highly Educated Workforce Relative to OECD Countries**

This chart shows share of adult population (aged 25 to 64) with a postsecondary credential in Ontario and the Organisation for Economic Co-operation and Development (OECD) countries. In 2011, 64% of Ontario's adults had a postsecondary credential, higher than any country in the OECD and much higher than the OECD average of 35%.

[Return to Chart 5.7](#)

### **Chart 5.8: Unit Labour Costs in Advanced Economies**

This bar chart shows the per cent change from 1997 to 2010 in unit labour costs for total economy in selected advanced economies. Unit labour costs for each economy are expressed in US dollar market exchange rates. Unit labour costs are calculated as the ratio of total labour cost (or compensation) to real output. The chart shows that unit labour costs increased significantly for Ontario (69%) and Canada (75%) while they only increased by 28% in the United States.

[Return to Chart 5.8](#)

### **Chart 5.9: M&E Investment in Ontario Relative to Canada and the United States**

This line chart shows investment in machinery and equipment (M&E) as a per cent of nominal GDP for Ontario, Canada and the United States. The time period is 1981 to 2013. The chart shows that Ontario's M&E investment relative to the size of the economy (as measured by nominal GDP) has remained below that of the United States since 1981, and has declined considerably since 1998.

[Return to Chart 5.9](#)

### **Chart 5.10: ICT Investment per Worker in Canada Relative to the United States**

This line chart shows the gap between Canada and the United States in investment in information and communications technology (ICT) per worker. Total ICT is divided into computers, communications and software. ICT gap is shown for the business sector in current dollars at purchasing power parity for the period 1987–2012. The 100 line implies that there is no gap, while points above 100 point to Canada's ICT investment per worker being higher than the U.S. and those below mean that Canada's is lower. The chart suggests that investment in ICT in Canada has underperformed that of the U.S. The gap is most pronounced in software.

[Return to Chart 5.10](#)

### **Chart 5.11: ICT Net Capital Stock per Worker in Canada Relative to the United States**

This line chart shows the gap between Canada and the United States in net capital stock in information and communications technology (ICT) per worker. Total ICT is divided into computers, communications and software. ICT gap is shown for the business sector in current dollars at purchasing power parity for the period 1987–2012. The 100 line implies that there is no gap, while points above 100 point to Canada's ICT capital stock per worker being higher than the U.S. and those below mean that Canada's is lower. The chart suggests that Canada's ICT capital-stock per worker is around 45% of that in the United States, implying that Canada's capital-stock per worker gap is around 55%. While Canada's ICT gap for computers has generally improved relative to the United States, the gap is more pronounced in communications and software.

[Return to Chart 5.11](#)

### **Chart 5.12: Research and Development Spending in Ontario Relative to Canada and the United States**

Ontario businesses continue to underinvest in productivity-enhancing activities such as research and development (R&D). Business R&D as a percentage of GDP in Ontario has continuously lagged behind the U.S. Between 2001 and 2011, Ontario's business R&D as a percentage of GDP declined from 1.7% to 1.2%, while the U.S. remained at 1.9%.

[Return to Chart 5.12](#)

### **Chart 5.13: Ontario's Business-Funded Higher Education R&D Compared to Selected Countries**

Ontario outpaces most other advanced economies in higher education R&D funded by business. Business funding of higher education R&D is a measure of industrial-academic cooperation in R&D and technology transfer. In 2010, Ontario businesses funded 7.6% of the R&D performed by higher education institutions. Ontario's proportion of business-funded higher education R&D exceeded the OECD average, as well as the U.S. (5.2%) and the U.K. (4.1%). Among the G7 countries, only Germany (13.9%) had higher education R&D funded by business than Ontario.

[Return to Chart 5.13](#)



#### **Chart 5.14: Exporters Achieve Faster Productivity Growth**

This bar chart shows average annual per cent change in Canadian manufacturing productivity growth for 1990–2006. The chart divides firms into Export Entrants, Continuing Exporters and All Continuing Manufacturers. It finds that Canadian manufacturers entering export markets between 1990 and 2006 had annual productivity growth of 2.3%, which is larger than 1.7% for continuing exporters and significantly larger than the 0.3% for all continuing manufacturers.

[Return to Chart 5.14](#)

#### **Chart 6.1: Retirement Savings Gap by Study — Selected Results**

This chart shows the results of six selected studies by academics, research institutes and financial institutions on the adequacy of retirement savings in Canada. Selected results from these studies indicate a low of 19 per cent to a high of 50 per cent of households are likely undersaving for retirement.

[Return to Chart 6.1](#)

#### **Chart 6.2: Pension Coverage in Ontario, 2012**

About 34 per cent of Ontario's workforce belonged to a workplace pension plan in 2012. About 25 per cent of workers were covered by a defined benefit plan and 9 per cent were either part of a defined contribution plan or some other type of plan. About 66 per cent of working Ontarians did not have workplace pension plan coverage in 2012.

[Return to Chart 6.2](#)

#### **Chart 6.3: Impact of Management Fees on Retirement Savings**

Given a 2.4 per cent management fee (management expense ratio or MER), the value of those savings after a 40-year horizon would be \$434,872. With a low 1 per cent fee, the value of those same savings would be \$605,689 after 40 years. Under a no-fee scenario, the value of those same savings over the same period would be \$784,630.

[Return to Chart 6.3](#)



#### **Chart 6.4: Retirement Income Targets and Potential Gaps**

All case examples assume that pre-retirement income is constant in real terms over a 40-year career. An individual with pre-retirement income of \$20,000 will meet their 70 per cent replacement target of \$14,000 through CPP, OAS and GIS benefits and does not face a potential savings gap. An individual with pre-retirement income of \$40,000 would need an additional \$11,795 annually over and above benefits provided by OAS and CPP to meet a 70 per cent income replacement target. An individual with pre-retirement income of \$75,000 would require an additional \$33,329 to meet this target.

[Return to Chart 6.4](#)

#### **Chart 6.5: Life Expectancy at Age 65 by Sex in Ontario**

Life expectancy has increased steadily since the late 1970s. In 1979, Ontario males could expect to live another 14 years, compared to another 19 years for females. By 2011, this had increased to 19 additional years expected for males and 22 additional years expected for females. Projections show that this trend will continue. By 2035, life expectancy at age 65 is projected to rise to 25 years for females and 23 years for males.

[Return to Chart 6.5](#)

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